

The Commonwealth of Massachusetts

TWELFTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1931

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the twelfth annual report of the Department of Public Works for the year ending November 30, 1931.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

The Department has conducted during this year a road building program which has broken all previous records, both in mileage of road surfaces completed and in the expenditure of money. This impetus to highway work was caused by the special legislation, Chapter 122, Acts of 1931, which increased the tax on gasoline and in addition provided a bond issue of \$7,000,000. This made possible a material relief to the unemployment situation, and resulted in the employment of more men on highway work during the past year than ever before.

The mileage of new State highways laid out during the year amounted to 102.148 miles, but there were abandoned or discontinued 1.175 miles, so that the net mileage of State highways amounted to 1,769.669 miles at the end of the year.

The Department has constructed, reconstructed and widened 166 miles of State highways, and built 209 miles of roads in co-operation with cities, towns and counties under provisions of Chapter 90, General Laws, and, in addition, has constructed 12 miles of highways under provisions of Special Acts. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of about 8.830 miles of public ways, exclusive of State highways, in 178 towns.

The Department has continued the policy of building wider types of pavements, many miles built this year being 30 and 40 feet in width. In many cases of highway intersections on important routes grade separations have been made by constructing a bridge to carry one road over the other to allow the continuous movement of traffic. New locations have been adopted for a number of highways in order to avoid dangerous conditions and to by-pass congested centers as well as for the purpose of decreasing distances.

The State highway projects have included the following:

Reconstruction and widening to 38 feet of about $5\frac{1}{2}$ miles of highway have been completed on the Boston to Lawrence route in the towns of Andover, Reading and North Reading, and a by-pass constructed to avoid the center of the town of Andover.

A section of the Boston Post Road in Marlborough and Northborough has been reconstructed and widened to 30 feet. The elimination of the railroad grade crossing in Weston at Stony Brook has been completed and a by-pass constructed to avoid the center of the town and the present highway connecting the two has been widened to 40 feet.

The completion of 17 miles of the new Boston to Worcester Turnpike, i. e., that portion between the Worcester-Shrewsbury town line and Framingham Center, and the start of an additional section between Framingham Center and the Natick-Wellesley town line. The highway will provide a roadway having a present width of 40 feet, consisting of two twenty-foot strips separated by a grassed strip and considered one of the most advanced types of highway for through traffic.

The construction of a by-pass is under way to avoid the city of Worcester, to extend from a point on the Boston Post Road in Northborough to Southbridge Street in Auburn, affording an improved route from Boston to Springfield, Hart-

ford and New York. The pavement will be of reinforced cement concrete 30 feet in width and will be widened to 40 feet on several of the summits to provide greater safety. At important intersections structures are being built to permit a separation of grades and to afford a continuity of traffic movement.

Considerable progress has been made in the improvement of the Mohawk Trail Route (Boston to North Adams), in the towns of Erving, Gill and Greenfield. When completed this highway will eliminate the circuitous route which now passes through the congested centers of Millers Falls and Turners Falls, two railroad grade crossings and considerable amount of dangerous grades and alignments. This includes construction of about 6 miles of new State highway, a highway grade separation, a bridge over the Central Vermont Railroad and the construction of a large steel arch bridge over the Connecticut River about 780 feet long with a roadway more than 100 feet above the river level.

Between Springfield and Pittsfield, on the so-called Jacob's Ladder Route, a cutoff approximately 4 miles long has been constructed in the towns of Chester and Huntington, avoiding two dangerous railroad crossings and two crossings of the Westfield River; and further west in the towns of Becket and Lee about 13 miles of State highway have been widened and resurfaced. This work completes the improvements in the entire highway from Westfield to Lee.

New bridges have been constructed across railroads in Bernardston and Hinsdale, replacing old bridges in dangerous locations.

Construction has begun on a new bridge across the Deerfield River between Greenfield and Deerfield to replace the historic Cheapside covered bridge.

A new highway has been completed in Hingham and Hull which allows traffic from Hull to reach the main land without passing through Nantasket Beach Reservation and also affords easier access to Nantasket Beach.

That part of the new Boston to Providence highway from the Pawtucket town line to the town of Foxborough has been completed; additional sections of this route are now under construction as far north as the town of Norwood. When completed this will afford a concrete pavement 40 feet wide with specially designed structures at important cross roads for separation of grades, permitting a continuous flow of traffic.

The highway between Fall River and Providence has been widened so that it is now 40 feet for the entire length in Massachusetts.

On the Boston to Cape Cod route via Plymouth, reconstruction, widening and relocation of the highway has been completed in the towns of Duxbury, Kingston and Pembroke. Further south, in Bourne and Plymouth, similar work has been done. On the Cape a cutoff about $5\frac{1}{2}$ miles in length has been built on new location in the town of Barnstable, avoiding the congested villages of Osterville and Centerville.

Another section of the circumferential highway in the towns of Canton, Dedham and Westwood, including bridges over two divisions of the New York, New Haven and Hartford Railroad, has been practically completed and an additional contract is now being executed further west in Dedham and in Westwood, Needham and Wellesley.

Under a Special Act the Department constructed a highway grade separation at the intersection of the Revere Beach Parkway and Broadway in the city of Revere. Also, under another Special Act work has been started on a parkway in Boston and Brookline from the West Roxbury Parkway to the Dedham line, and in a traffic artery in Boston from Blue Hill Avenue to Cummins Highway in the vicinity of Canterbury Street.

The Department, with the approval of the Governor of the Commonwealth, was authorized, on behalf of the Commonwealth, to acquire land in the city of Boston for a building for general office and headquarters purposes of the Department, and to construct a building for these purposes. Chapter 122 of the Acts of 1931 provided that the Department may expend for this purpose a sum not exceeding one million five hundred thousand dollars. Pursuant to this act, the Department appointed Edward T. P. Graham, of Boston, as Architect, on June 11, 1931, to prepare plans for and to supervise the construction of this building. Plans for the building were approved by the Governor on September 10, 1931. Contract plans and specifications were completed in November, 1931, and bids advertised to be received December 3, 1931.

The engineering and clerical staff of the Department was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, GEORGE A. PARKER¹ and MORGAN T. RYAN.²

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,

December 1, 1931.

Commissioner of Public Works.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The construction of a breakwater and certain marine improvements in that part of the town of Winthrop known as Winthrop Highlands. Report made Dec. 1, 1930, by the Department of Public Works, under chapter 23, Resolves of 1930. (Senate 5 of 1931.)

The disposal of certain used motor vehicles and the licensing of motor vehicle junk yards. Report made Dec. 1, 1930, by the Department of Public Works, under chapter 24, Resolves of 1930. (Senate 6 of 1931.)

The improvement of highway conditions in certain cities and towns within the Metropolitan District. Report made Dec. 3, 1930, by the Department of Public Works, under chapter 48, Resolves of 1930. (Senate 330 of 1931.)

The adequacy of the terminal facilities of the Port of Boston and the advisability of the construction of a grain elevator on harbor-front property of the Commonwealth at South Boston. Report made Dec. 3, 1930, jointly by the Department of Public Works and the Boston Port Authority, under chapter 37, Resolves of 1930. (House 171 of 1931.)

¹ Resigned July 1, 1931.

² Appointed July 1, 1931.

The discharge of sewage into Boston Harbor and its tributary waters. Report made Dec. 3, 1930, by a special unpaid commission consisting of the Commissioner of Public Works, or an associate commissioner designated by him, the Commissioner of Public Health, or a representative of his department designated by him, the Health Commissioner of the city of Boston, and the Commissioner of Public Works of the city of Boston, under chapter 29, Resolves of 1929. (Senate 56 of 1931.)

The advisability of constructing a state fish pier in the city of Gloucester. Report made Dec. 22, 1930, by a special unpaid commission consisting of one member of the Senate, three members of the House of Representatives and the Commissioner and Associate Commissioners of the Department of Public Works, under chapter 32, Resolves of 1930. (House 352 of 1931.)

The advisability of filling in part of Fort Point Channel and South Bay in Boston Harbor. Report made by a special unpaid commission consisting of one member of the Senate, two members of the House of Representatives, the Commissioner of Public Works, the Commissioner of Public Health, the Chairman of the Division of Metropolitan Planning, the Chairman of the Boston City Planning Board and the Commissioner of Public Works of the city of Boston, under chapter 29, Resolves of 1930. (House 1290 of 1931.)

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 2, 1931, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. *Continuing in Force the Registration of Motor Vehicles or Trailers in cases of Insolvency or Bankruptcy of Owners thereof*

In order to "perfect" the law and validate a departmental practice in which it has been the custom in the past to allow registrations to run for the remainder of the year in cases where the owner has been petitioned into bankruptcy or insolvency, the Department recommends legislation.

2. *Notices of Cancellation for Non-Payment of Insurance Premiums and the Revocation of Registrations in such cases*

In order to regulate and reduce the growing number of insurance cancellation notices on account of non-payment of premiums which have the effect of making the Registry of Motor Vehicles a collection agency, legislation is recommended by the Department.

3. *Establishment of Building Lines on State Highways*

In order to provide adequately for future requirements for the construction or reconstruction of State highways the Department recommends that provision be made for the establishing of building lines on State highways at such locations as the Department may deem necessary.

APPROPRIATIONS

Chapter 245, Acts of 1931, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item	Requirements for Extinguishing the State Debt	
214.	For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of seven hundred fifteen thousand five hundred sixty-six dollars and fifty cents, payable from the following accounts and funds in the following amounts:—from the balance of the receipts of the sale of the Boston dry dock, two hundred sixteen thousand seven hundred ninety dollars and thirty-five cents; from the Highway Fund, the sum of two hundred seventy-three thousand five hundred sixty-six dollars and fifty cents; and the remainder from the General Fund.	\$715,566 50

Item

Interest on the Public Debt

215. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred forty-four thousand one hundred forty dollars and seventy-five cents, of which sum two hundred eighty-three thousand four hundred fifty-six dollars and twenty-five cents shall be paid from the Highway Fund \$844,140 75

Service of the Department of Banking and Insurance

Division of Insurance:

292. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred ninety thousand dollars, of which sum not more than twenty-eight dollars may be charged to the Highway Fund 190,000 00

Service of the Department of Corporations and Taxation

Corporation and Tax Divisions:

300. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty-two thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called 222,000 00

Service of the Department of Public Safety

Division of State Police:

582. For the salaries of officers, including detectives, a sum not exceeding four hundred ten thousand dollars, of which sum not more than one hundred forty-nine thousand dollars may be charged to the Highway Fund 410,000 00
584. For other necessary expenses of the uniformed division, a sum not exceeding three hundred seventy-two thousand dollars, of which sum not more than one hundred forty-eight thousand seven hundred and thirty dollars may be charged to the Highway Fund 372,000 00

Service of the Department of Public Works

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

604. For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars 19,500 00
605. For personal services of clerks and assistants to the commissioner, a sum not exceeding ninety-one hundred and forty dollars 9,140 00
606. For traveling expenses of the commissioners, a sum not exceeding three thousand dollars 3,000 00
- Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):
607. For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-nine thousand dollars. 89,000 00
608. For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding eleven thousand dollars 11,000 00

Item

609.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding thirteen thousand dollars.	\$13,000 00
610.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars	2,500,000 00
611.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million one hundred seventy-five thousand dollars	1,175,000 00
611a.	For payments to the cities and certain towns of the commonwealth, as authorized by section seven of chapter one hundred and twenty-two of the acts of the present year, a sum not exceeding two million five hundred thousand dollars	2,500,000 00
612.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding five million two hundred thousand dollars.	5,200,000 00
613.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding two million four hundred eighty thousand dollars	2,480,000 00
614.	For administering the law relative to advertising signs near highways, a sum not exceeding seventeen thousand dollars, to be paid from the General Fund	17,000 00
615.	For expenses of studies and for necessary payments during this fiscal year on account of any of the first twenty-one projects for the abolition of grade crossings contained in the program approved by the department of public utilities, as authorized by sections sixty-five to eighty, inclusive, of chapter one hundred and fifty-nine of the General Laws, as amended, a sum not exceeding seven hundred thousand dollars; and in addition thereto the sum of three hundred nineteen thousand one hundred thirteen dollars and thirty-four cents now in the treasury from the proceeds of the last issue of bonds by the commonwealth for the abolition of grade crossings is hereby made available for expenditures authorized by said sections with the approval of the department of public works; and any unexpended balance remaining at the end of the current fiscal year may be used in the succeeding year	700,000 00
Registration of Motor Vehicles:		
616.	For personal services, a sum not exceeding nine hundred fifty thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	950,000 00
617.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding six hundred twenty-nine thousand dollars, to be paid from the Highway Fund.	629,000 00
618.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund	2,500 00
619.	For expenses of an investigation to provide measures for safety on the highways and for the reduction of accidents,	

Item

a sum not exceeding twenty thousand dollars, to be paid from the Highway Fund \$20,000 00

Special:

620. For expenditures by the department of public works, as authorized by chapter four hundred and twenty of the acts of nineteen hundred and thirty, a sum not exceeding one million two hundred and seventy-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund 1,275,000 00
- Functions of the department relating to waterways and public lands:
621. For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars 52,000 00
622. For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies, and equipment, a sum not exceeding twenty-five hundred dollars 2,500 00
623. For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars 5,000 00
624. For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding thirty thousand dollars 30,000 00
625. For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding one hundred seventy-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered 175,000 00
626. For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars 1,000 00
627. For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars 500 00
628. For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred twelve thousand dollars, to be paid from the Port of Boston receipts 112,000 00
629. For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the Port of Boston receipts 8,000 00
630. For the maintenance and improvement of commonwealth property under the control of the department in connection

Item

	with its functions relating to waterways and public lands, a sum not exceeding one hundred thousand dollars, to be paid from the Port of Boston receipts	\$100,000 00
631.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding four thousand dollars	4,000 00
632.	For the compensation of dumping inspectors, a sum not exceeding three thousand dollars	3,000 00
633.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars	5,000 00
	Specials:	
634.	For dredging channels and filling flats, a sum not exceeding one hundred ten thousand dollars to be paid from the, Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	110,000 00
635.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding four thousand dollars	4,000 00
636.	For the construction of railroads and piers and for the development of land at South Boston and East Boston, a sum not exceeding twenty thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	20,000 00
637.	For the purchase of certain land formerly owned by the commonwealth, a sum not exceeding twenty thousand dollars, to be paid from the Port of Boston receipts	20,000 00
638.	For the expense of work authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, a sum not exceeding seventy thousand dollars	70,000 00

The following four items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

661.	For maintenance of boulevards and parkways, a sum not exceeding six hundred eight thousand dollars	\$608,000 00
662.	For resurfacing of boulevards and parkways, a sum not exceeding three hundred thousand dollars	300,000 00
663.	For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of nineteen hundred and twenty-nine, a sum not exceeding one hundred fifty-five thousand dollars, representing the state's portion of the cost of such improvements required for the current year, the same to be in addition to any amount heretofore appropriated for the purpose	155,000 00
664.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding fifty-five hundred dollars	5,500 00

Department of Public Works

For administering the law relative to advertising signs near highways, the sum of seventeen hundred eighty-two dollars and seventy-one cents, to be paid from the General Fund	1,782 71.
For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, the sum of eighty-five dollars, to be paid from the Highway Fund	85 00

Item

Chapter 460, Acts of 1931, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

Service of the Department of Corporations and Taxation
Corporation and Tax Divisions:

- | | | |
|------|---|------------|
| 300. | For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding fifteen hundred dollars, to be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called, and to be in addition to any amount heretofore appropriated for the purpose | \$1,500 00 |
| 301. | For traveling expenses, a sum not exceeding one thousand dollars, to be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called, and to be in addition to any amount heretofore appropriated for the purpose | 1,000 00 |

For the Service of the Department of Public Works
Functions of the department relating to highways (the following appropriations are made from the Highway Fund):

- | | | |
|-------|--|------------|
| 610. | For the construction and repair of town and county ways, a sum not exceeding two hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to cover the cost of any work done in the city of Revere during the present year | 200,000 00 |
| 612. | The appropriation heretofore made under this item is hereby changed to include the expense of lighting any road authorized by law. | |
| 615a. | For expenses of an investigation relative to the advisability of constructing certain highways, as authorized by chapter thirty-two of the resolves of the present year, a sum not exceeding twelve thousand dollars | 12,000 00 |
| 615b. | For expenses authorized by law relative to preliminary estimates and plans for the construction of a bridge over the Saugus river between Point of Pines and the state highway leading to Lynn, a sum not exceeding seventy thousand dollars | 70,000 00 |
| 615c. | For expenses of a study relative to a bridge over Weymouth Fore river, a sum not exceeding ten thousand dollars | 10,000 00 |

Registration of Motor Vehicles:

- | | | |
|------|--|----------|
| 616. | For personal services, a sum not exceeding three thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose | 3,000 00 |
| 617. | For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding six thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose | 6,000 00 |

Functions of the department relating to waterways and public lands:

- | | | |
|-------|--|-----------|
| 625a. | For expenses of building an addition and for improvements to the state pier at New Bedford, a sum not exceeding fifty thousand dollars | 50,000 00 |
|-------|--|-----------|

Item

625b.	For expenses of constructing sea walls and shore protection in the town of Marshfield, as authorized by and subject to the conditions specified in a certain act of the present year, a sum not exceeding one hundred thousand dollars.	\$100,000 00
625c.	For expenses of constructing sea walls and shore protection in the town of Scituate, as authorized by and subject to the conditions specified in a certain act of the present year, a sum not exceeding thirty-seven thousand five hundred dollars	37,500 00
627.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding one thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	1,000 00

Service of Metropolitan Boulevards (Highway Fund)

661a.	For certain expenses incurred in previous years for the maintenance of boulevards, a sum not exceeding fifty-eight hundred and fifty dollars, to be paid from the Highway Fund	5,850 00
661b.	For the construction of certain boulevards by the metropolitan district commission, as authorized by a certain act of the present year, a sum not exceeding two hundred seventy-five thousand dollars, to be paid from the Highway Fund.	275,000 00

Unclassified Accounts and Claims

677.	For the payment of claims authorized by certain resolves of the present year, a sum not exceeding eleven thousand six hundred seventy-three dollars and forty-two cents, of which sixty-five hundred fifty-nine dollars and ninety-four cents shall be charged to the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto.	11,673 42
------	---	-----------

OTHER APPROPRIATIONS

625d.	For the construction of a breakwater or other means of protection for property along the water front in the Hough's Neck section of the city of Quincy, a sum not exceeding twenty thousand dollars, provided, that before any work is done by the department of public works the county of Norfolk and the city of Quincy shall contribute the sum of ten thousand dollars each, and pay the same into the treasury of the commonwealth, to be used in addition to the twenty thousand dollars hereby appropriated by the commonwealth	20,000 00
625e.	For the construction of a breakwater or other means of protection for property at or near Long Beach in the town of Rockport, a sum not exceeding twenty-five thousand dollars, provided that before any work is done by the department of public works the town of Rockport shall contribute and pay into the treasury of the commonwealth the sum of twenty-five thousand dollars, to be used in addition to the twenty-five thousand dollars hereby appropriated by the commonwealth.	25,000 00

Attorney General's Department:

615d.	For the construction of a state highway in the city of Revere, as provided by a law of the present year, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund	25,000 00
-------	---	-----------

Item DEFICIENCIES

Service of the Department of Public Works

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, the sum of one hundred thirty-eight dollars and sixty-one cents, to be paid from the Highway Fund	138 61
For the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of one hundred eighty-one dollars and fifty cents, to be paid from the Highway Fund	181 50

SECTION 3. The following changes and transfers, unless otherwise specified, are hereby made in chapter 245 of the acts of the present year (general appropriation act), and are, in part, as follows:—

Payment to towns entitled to aid for repair and improvement of public ways, etc.:

611. There shall be paid from this item on or after June first, of the current year, without further contract, to all towns entitled to aid for repair and improvement of public ways under section twenty-six of chapter eighty-one of the General Laws, as amended, a sum aggregating two hundred twenty thousand seven hundred and fifty dollars, the amounts so paid being payments referred to under provisions of section seven of chapter one hundred and twenty-two of the acts of the present year.

Item 612 amended:

612. This item is hereby amended by inserting after the word “machinery” the words:—and for the purchase and improvement of a nursery for roadside planting.

Item 625 amended:

625. This item is hereby amended by inserting after the word “year” in the eighth line the words:—may be expended in the succeeding fiscal year.

Chapter 465, Acts of 1931 (Extra Session), making appropriations for the employment of additional persons as a measure of relief during the present unemployment emergency.

SECTION 1. To provide for the employment of additional labor and other personal services as a measure of relief during the present emergency caused by unemployment, the sums set forth in section two, for the several purposes and subject to the conditions therein specified, are hereby appropriated from the general fund or revenue of the commonwealth unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Service of the Department of Public Works

Item A:

For removing the abandoned hulks or wrecks lying along the waterfront of East Boston and Chelsea Creek, a sum not exceeding sixty-five thousand dollars	\$65,000 00
---	-------------

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1931

HIGHWAY FUND

Section 34, Chapter 90, General Laws, as amended .
(See Chapter 288, Acts of 1925.)

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$6,901,140 06	
Gasoline tax, gross	13,936,029 92	
Contributions for highways and assessments (G. L., Ch. 81)	459,059 81	
Appropriation balances of previous years reverting	95	
Contributions and refunds	67,557 30	
Sale of old materials and buildings	1,066 80	
Reimbursement for repairs to guard rail and other property	8,788 43	
		\$21,373,643 27
Less—Refunded receipts		314,388 88

\$21,059,254 39

PORT OF BOSTON FUND

Chapter 91, General Laws

Rents (leases and permits)	\$199,723 61	
Refunds of previous years	8 98	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	411 94	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	193,452 29	
Use of Commonwealth Pier No. 1 (rentals, etc.)	551 07	
Use of Hayward Creek Property (rentals)	112 00	
Revenue from permits for dumping dredged material at receiving basins	1,011 78	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor	41,669 69	
Telephone pay station receipts	100 86	
Sales of land, South Boston	1 00	
Sales of Boston Harbor maps	13 75	
		\$437,056 97

DEPARTMENT INCOME

(Ordinary Revenue)

Highway and Route Maps and bulletins	\$28 25	
Reimbursement for services (heating D Street Building)	174 00	
Sales (specifications and plans for contracts)	1,039 00	
Sale of land	250 00	
Interest on Bank accounts	831 69	
Aircraft licenses	942 00	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	380 76	
Penalty for violation of aircraft laws	50 00	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	6,981 26	
Certified copying charges	148 00	
Sale of Atlas sheets and miscellaneous plans	950 00	
Use of Province Lands (S 25, C. 91, G. L.)	298 35	
Permits for advertising signs	14,278 20	
Use of New Bedford State Pier	6,000 00	

\$32,351 51

IMPROVEMENT OF RIVERS AND HARBORS TRUST

((Sections 11, 29, chapter 91, General Laws)

Contributions from towns, individuals or others . . . \$142,476 14

HIGHWAY TRUST

(Section 30, Chapter 81, General Laws)

Federal Aid (reimbursement from United States Government) \$4,053,410 22

Funds Contributed for Work under Special Acts

Contribution by Town of Hull (Chap. 119, Acts of 1931)	\$150,000 00	
Contribution by Town of Marshfield (Ch. 407, Acts of 1931)	66,666 00	
Contribution by County of Plymouth, (Ch. 407, Acts of 1931)	33,334 00	
Contribution by County of Plymouth, (Ch. 424, Acts of 1931)	12,500 00	
Contribution by Town of Scituate, (Ch. 424, Acts of 1931)	25,000 00	
Contribution by City of Taunton, (Ch. 405, Acts of 1930)	30,000 00	
Contribution by Town of Rockport, (Ch. 460, Acts of 1931)	25,000 00	
	<hr/>	\$342,500 00
Total		\$26,067,049 23

Expenditures

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 245, 460 and 465, Acts of 1931, during the fiscal year ending Nov. 30, 1931, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, personal services of clerks, stenographers, and commissioners' travel.	\$30,356 13	
Public Works Department Building, land and services	191,526 00	
	<hr/>	\$221,882 13

RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, clerks, and stenographers		\$88,478 99
<i>State Highways—Construction</i> (Chapter 81, G. L.)		
General Contract Work	\$5,259,067 08	
Engineering (Supervision)	726,206 47	
Rent of office, Commonwealth Pier 5	7,500 00	
Highway Testing Laboratory	15,184 18	
Hingham-Hull (Chap. 119, Acts of 1931)	329,168 05	
	<hr/>	6,337,125 78
<i>Maintenance and Repair of State Highways</i> (Chapter 81, General Laws)		
<i>Reconstruction of State Highways</i>		
General Contract Work	\$4,272,059 51	
Engineering, supervision on reconstruction	485,608 34	
	<hr/>	4,757,667 85

Ordinary Maintenance

General Maintenance	\$1,353,599 35	
Engineering (supervision)	315,060 93	
Highway Testing Laboratory	13,572 31	
Care and repair of road building machinery	337,726 03	
Removal of snow from highways	509,750 22	
Roadside planting and development	68,120 58	
Traffic, engineering, signs and traffic count	165,614 34	
Paint manufacture	30,512 40	
Newburyport Bridge, Salisbury-Newburyport, over Merrimack River, maintenance and operation	7,773 97	
Brightman St. Bridge, Fall River-Somerset, maintenance and operation	13,444 24	
New Bedford-Fairhaven Bridge, Achushnet River (Chapter 426, Acts of 1930)	22,762 93	
Tercentenary signs on highways (Chapter 10, Resolves of 1930)	635 96	
Route and detour maps	5,715 93	
Rent for offices at Commonwealth Pier 5	7,500 00	
Rent for offices at D Street	12,500 00	
Additional office at Commonwealth Pier 5	3,711 29	
		\$2,868,000 48

Construction and Repair of Town and County Ways
(Section 34, Chapter 90, General Laws) State's
expenditure for work contracted for in cities and
towns

Engineering and expense (supervision)	\$2,359,578 34	
	516,812 02	
		\$2,876,390 36

*Aiding Towns in the Repair and Improvement of
Public Ways* (Section 26, Chapter 81, General
Laws, as amended)

State's expenditures for work contracted for in cities and towns	\$871,852 63	
Engineering and expense (supervision)	74,019 83	
		\$945,872 46

Special Acts:

Expenditures under the provisions of Chapter 177, Acts of 1931		\$2,142,900 91
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4 (Chapter 122, Acts of 1931)		2,500,000 00
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4, Chapter 122, Acts of 1931 (Sec. 26, Ch. 81)		220,750 00
<i>Incidentals</i> (printing, postage, supplies, etc.)		11,178 10
<i>Advertising signs, regulation of personal services</i> and expenses		19,061 97
<i>Southern Traffic Route Construction</i> (Chapter 330 and 344, Acts of 1925, and Section 4, Chapter 369 and 398, Acts of 1926)		101 27
<i>Traffic Artery</i> in City of Cambridge, connecting Ale- wife Brook Parkway and Fresh Pond Parkway (Chapter 366, Acts of 1928)		75
<i>Public Highway</i> , shore of Dorchester Bay, Quincy, (Chapter 259, Acts of 1928)		1,005 73
<i>Highways in Malden, Braintree, Weymouth and Hingham</i>		
<i>Hingham, Braintree and Weymouth</i>	\$16,677 83	
Malden	2,139 02	
		\$18,816 85

<i>Bridges over location of Southern New England Railroad</i> , repairs (Chapter 308, Acts of 1930)	\$6,290	50
<i>Removal of Bridges, Palmer, Ludlow and Belcher-town</i> (Chapter 388, Acts of 1930)	8,704	60
<i>Highways in Metropolitan District</i> (Ch. 420, Acts of 1930)		
Section 1. Canton, Dedham, Wellesley, etc.	\$240,477	31
Section 2. Canterbury Street, Boston	30,972	86
Section 3. Land taking—Neponset River, Milton	22,483	52
Section 4. West Roxbury—Brookline Parkway	25,398	91
Section 5. Broadway, Revere Beach Parkway—grade separation, Everett	178,590	45
	<hr/>	
	497,923	05
<i>Abolition of Grade Crossings</i> (Ch. 420, Acts of 1931)	93,736	28
Study Weymouth Fore River Bridge (Resolves 54, Chapter 460, Acts of 1931)	1,688	78
<i>Plans for new Saugus River Bridge</i> (Resolves 51, Chapter 460, Acts of 1931)	44,936	24
<i>State Highway—Revere</i> (Chapter 445, Acts of 1931)	3,959	80
<i>Suppression of gypsy and brown tail moths</i> on State highways, in cities and towns	12,985	25
	<hr/>	
<i>Total Expenditures for Highways</i>	\$23,457,576	00

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles	\$1,580,903	40
--	-------------	----

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General expenses	\$54,387	45
------------------	----------	----

Boston Harbor:

Maintenance and operation, Commonwealth Pier 1, East Boston	7,911	00
Maintenance and operation, Commonwealth Pier 5, South Boston	115,067	15
Maintenance of property	87,216	37
Dredging and filling	180,783	93
Streets, piers and railroads	14,760	24
Dredging Savin Hill Bay	4,471	58
Purchase of land, South Boston	20,000	00
Removal of hulks, East Boston (Ch. 465, Acts of 1931)	66	85

Outside of Boston Harbor:

Improvement of rivers and harbors	331,477	82
Repairing damages to shore	23,277	94
New Bedford State Pier, operation and maintenance	3,788	89
Construction and alterations	42,638	30
Expenses of province lands	5,000	00
Expenses of Plymouth property	4,713	89
Topographical survey	987	99
Stream gauging	5,134	52
Surveying state and town boundaries	1,285	17
Compensation for services of dumping inspectors	654	12
Chapter 300, Acts of 1930, Dike Province Lands	5,719	18
Chapter 407, Acts of 1931, Marshfield shore protection	96,273	53
Chapter 424, Acts of 1931, Scituate shore protection	56,708	11
Long Beach, Rockport	42,609	43
Chapter 405, Acts of 1931, Taunton River improvement	1,085	28

Total	\$1,106,018	74
-------	-------------	----

SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30,
1931

Administrative	\$221,882 13
Relating to Highways.	23,457,576 00
Registry of Motor Vehicles	1,580,903 40
Relating to Waterways	1,106,018 74
Total	\$26,366,380 27

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended, of approximately \$3,754,435.80 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Relating to Highways

GENERAL STATEMENT

State Highways. — During the year ending Nov. 30, 1931, the Department laid out new State highways amounting to 102.148 miles of highways in 65 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1931, 1.175 miles of State highways were discontinued or abandoned. The total length of State highways at the end of the year was 1,769.669 miles. Work was completed on 65.028 miles of State highways, portions of which were laid out in 1930.

Highways Constructed in 1931. — Construction has been completed on 65.028 miles of State highways, 208.925 miles of highways under the provisions of section 34, chapter 90, General Laws, as amended, and 12.362 miles of highways under the provisions of special acts, making a total of 286.315 miles completed during the year.

Of the above highways completed this year 19.470 miles were of gravel; 16.236 miles were of bituminous concrete; 120.255 miles were of bituminous macadam; 37.168 miles were of reinforced concrete; 53.879 miles were of gravel with a bituminous treatment; 4.823 miles were of dual type (reinforced cement concrete and bituminous macadam); 0.108 miles were of waterbound macadam with a bituminous treatment; 33.604 miles were of bituminous concrete (retread method); 0.772 miles were of sheet cement concrete.

Resurfacing, Reconstruction and Widening of State Highways. — During the year 36.204 miles of State highways were widened, but not resurfaced, and 64.524 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 37.009 miles were of bituminous macadam, 9.574 miles were of bituminous concrete, 5.665 miles were of reinforced concrete, 9.742 miles were of dual type (reinforced cement concrete and bituminous macadam), 2.534 miles were of bituminous concrete (retread method).

Surveys, Plans and Estimates. — During the year preliminary surveys, plans and estimates were made as follows:

For State Highway Construction. — Preliminary surveys in 45 towns, 83.264 miles; plans in 34 towns, 66.868 miles; preliminary estimates in 39 towns, 72.677 miles; lines and grades in 56 towns, 98.607 miles and final surveys in 33 towns, 64.491 miles.

For State Highway Reconstruction and Resurfacing. — Preliminary surveys in 49 towns, 72.250 miles; plans in 42 towns, 71.972 miles; preliminary estimates in 39 towns, 65.268 miles; lines and grades in 49 towns, 87.253 miles; final surveys in 35 towns, 63.620 miles.

Under section 34, Chapter 90, General Laws, as amended. — Preliminary surveys in 178 towns, 234.464 miles; plans in 151 towns, 220.098 miles; preliminary estimates in 160 towns, 152.340 miles; lines and grades in 212 towns, 208.969 miles; final surveys in 111 towns, 117.034 miles.

Under the provisions of various Acts and Resolves, surveys were made as follows:

Chapter 445, Acts of 1931: Section 1, — 0.60 miles of preliminary survey and plans in 1 city; Section 2, — 0.60 miles of preliminary survey and plans in 1 city; Section 3, — 0.611 miles of preliminary survey and plans in 1 city.

Chapter 420, Acts of 1930: Section 1, — 12.275 miles of reconnaissance survey and plans in 4 towns and 1 city; 9.727 miles of preliminary survey and plans in 4 towns and 1 city; 11.05 miles of estimate in 4 towns and 1 city; Section 2, — 2.576 miles of reconnaissance survey and plans in 1 city; 7.267 miles of preliminary survey and plans in 1 city; 2.10 miles of estimate in 1 city; Section 3, — 4.044 miles of preliminary survey and plans in 1 town and 1 city; Section 4, — 4.266 miles of reconnaissance survey and plans in 1 town and 1 city; 4.967 miles of preliminary survey and plans in 1 town and 1 city; 2.713 miles of estimate in 1 town and 1 city; Section 5, — 0.454 miles of preliminary estimate, stakes and final survey in 1 city.

Chapter 38, Resolves of 1931: Section 1, — preliminary survey and plans in 1 city, 0.963 miles; Section 2, — reconnaissance survey and plans in 5 towns and 1 city, 20.05 miles.

Chapter 51, Resolves of 1931: 0.738 miles of preliminary survey and plans in 2 cities.

Chapter 54, Resolves of 1931: preliminary survey and plans in 1 town and 1 city, 0.316 miles.

Grade Crossing Elimination. — Chapter 417, Acts of 1930: 3.52 miles of preliminary survey in 5 towns; 3.37 miles of plans in 5 towns; 1.11 miles of preliminary estimate in 3 towns; 0.625 miles of lines and grades in 1 town.

Reconnaissance. — 204 miles of survey and 183 miles of plans in 81 towns.

Chapter 90 Reconnaissance. — 14 miles of survey and plans in 6 towns.

Advice to Other State Departments. — 0.284 miles of preliminary survey plans and estimate in 1 city.

Precise levels have been made, covering 892 miles in 183 towns.

Plans to accompany decrees for street railway locations on State highways have been made in 3 towns.

Permits. — There were 2,126 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Municipal Authorities. — The Department furnished without charge engineering advice to 27 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

Approval of Specifications. — The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 28 towns and cities.

Approval of Bridge Plans. — The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 10 towns and cities.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the amendment or revision of permits for the operation of bus lines in 13 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 59 cases; on the matter of outdoor advertising in 5 towns and cities; on the matter of special regulations for motor vehicles in Medford, Milton, Revere, Reading, Falmouth, Wakefield, Chelsea and Springfield; on petitions for the relocation of street railway tracks in Dedham, Greenfield, Framingham and Natick; on a request for the re-naming of the Boston-Worcester Turnpike; and on the abolition of grade crossings in Newbury, Littleton, Norwood, Ayer, Waltham, Lincoln, Somerville and Lowell.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	81	88
Work under section 34, chapter 90, General Laws, as amended	16	430
Work under section 26, chapter 81, General Laws, as amended	178	178
Work under Special Act	—	5
	275	701

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

SELECTMEN OF FOXBOROUGH. — Road locally known as Norfolk Street, extending from the dividing line between the towns of Wrentham and Foxborough, to the junction of Norfolk and Main Streets. Received Dec. 10, 1930.

SELECTMEN OF WRENTHAM. — Road locally known as Norfolk Street, extending from the dividing line between the towns of Plainville and Wrentham to the dividing line between the towns of Wrentham and Foxborough. Received Dec. 10, 1930.

SELECTMEN OF NORTH ATTLEBOROUGH. — Road locally known as Washington Street, extending from the junction of Washington and Park Streets to the dividing line between the towns of North Attleborough and Plainville. Received Dec. 12, 1930.

SELECTMEN OF PLAINVILLE. — Road locally known as Norfolk Street, extending from the dividing line between the towns of North Attleborough and Plainville to the dividing line between the towns of Plainville and Wrentham. Received Dec. 12, 1930.

SELECTMEN OF SOUTHBOROUGH. — Road locally known as the Worcester Turnpike, extending from White's Corner to the dividing line between the towns of Southborough and Framingham. Received Dec. 24, 1930.

SELECTMEN OF FRAMINGHAM. — Road locally known as the Worcester Road, extending from the dividing line between the towns of Southborough and Framingham to the westerly side of the Sudbury River Bridge. Received Dec. 31, 1930.

SELECTMEN OF LONGMEADOW. — Road extending from the intersection of the southerly line of Elm Avenue with the easterly line of Longmeadow Street, over a new location to a point on the dividing line between the towns of Longmeadow and East Longmeadow about one and one-half miles northerly from the Connecticut line. Received Jan. 29, 1931.

SELECTMEN OF FRAMINGHAM. — Road extending from a point on the Worcester Road about 1,000 feet east of the dividing line between the towns of Framingham and Southborough, westerly over a new location, across the Old Colony Railroad to the dividing line between the towns of Framingham and Southborough. Received Feb. 5, 1931.

SELECTMEN OF ERVING. — Road extending from a point on the State highway near Forest Street to the dividing line between the towns of Erving and Gill north of the junction of the Connecticut and Millers Rivers. Received Feb. 4, 1931.

SELECTMEN OF BILLERICA. — Road locally known as Boston Road, extending from the dividing line between the towns of Bedford and Billerica to the dividing line between the towns of Billerica and Chelmsford. Received Feb. 6, 1931.

SELECTMEN OF GREENFIELD. — Road extending from the dividing line between the towns of Greenfield and Gill, near Factory Village, to the junction of Gil Road and the Turners Falls Road. Received Feb. 4, 1931.

- SELECTMEN OF GILL.** — Road extending from the dividing line between the towns of Gill and Erving, north of the junction of the Connecticut and Millers Rivers to the dividing line between the towns of Gill and Greenfield, near Factory Village. Received Feb. 4, 1931.
- SELECTMEN OF SOUTHBOROUGH.** — Road extending from a point on the Framingham Road, near Willow Road, easterly over a new location to the dividing line between the towns of Framingham and Southborough. Received Feb. 4, 1931.
- SELECTMEN OF HULL.** — Road extending from Nantasket Avenue across Bay Street and along the Bay and west of the railroad to the dividing line between the towns of Hull and Hingham. Received Feb. 11, 1931.
- SELECTMEN OF HINGHAM.** — Road extending from Rockland Street, in whole or in part over a new location west of the railroad tracks, to the dividing line between the towns of Hingham and Hull. Received Feb. 11, 1931.
- SELECTMEN OF FRAMINGHAM.** — Road extending from the bridge on the Worcester Road over the Sudbury River to the dividing line between the towns of Framingham and Natick. Received Feb. 27, 1931.
- SELECTMEN OF RUSSELL.** — Road extending from the dividing line between the towns of Granville and Russell to the dividing line between the towns of Russell and Blandford. Received Feb. 25, 1931.
- SELECTMEN OF BECKET.** — Road extending from the dividing line between the towns of Becket and Otis northerly to the Bonny Rigg Four Corners. Received Feb. 25, 1931.
- SELECTMEN OF GRANVILLE.** — Road extending from the dividing line between the States of Massachusetts and Connecticut to the dividing line between the towns of Granville and Russell. Received Feb. 25, 1931.
- SELECTMEN OF OTIS.** — Road extending from the dividing line between the towns of Blandford and Otis to the dividing line between the towns of Otis and Becket. Received Feb. 25, 1931.
- SELECTMEN OF BLANDFORD.** — Road extending from the dividing line between the towns of Russell and Blandford northerly to the Woronoco-Blandford State Road. Also road extending from the northerly end of the present State highway in North Street to the dividing line between the towns of Blandford and Otis. Received Feb. 25, 1931.
- MAYOR AND ALDERMEN OF WORCESTER.** — Road extending from the dividing line between the town of Shrewsbury and the city of Worcester, near Harrington Street, to the dividing line between the city of Worcester and the town of Auburn in the southern part of the city near the Millbury line. Received Mar. 6, 1931.
- SELECTMEN OF AUBURN.** — Road extending from the dividing line between the city of Worcester and the town of Auburn in the northeastern part of the town, near the Millbury line, to a point on Southbridge Street near Tinker Hill Street in the southwestern part of the town. Received Mar. 6, 1931.
- SELECTMEN OF MILLBURY.** — Road extending from the dividing line between the city of Worcester and the town of Millbury near the point where the railroad tracks cross said line in the northerly part of the town, to a point about one mile distant northeasterly therefrom in said dividing line between the town of Millbury and the city of Worcester. Received Mar. 6, 1931.
- SELECTMEN OF SHREWSBURY.** — Road extending from the dividing line between the city of Worcester and the town of Shrewsbury near Harrington Street, to the dividing line between the towns of Shrewsbury and Northborough at a point about 600 feet south of the Worcester Turnpike. Received Mar. 6, 1931.
- SELECTMEN OF NORTHBOROUGH.** — Road extending from the dividing line between the towns of Shrewsbury and Northborough at a point about 600 feet south of the Worcester Turnpike to a point on the Boston Post Road near King Street. Received Mar. 6, 1931.
- SELECTMEN OF RICHMOND.** — Road locally known as Canaan Road extending from a point on Route No. 118 about two and a half miles from the Pittsfield line southwesterly to the New York state line. Received Mar. 9, 1931.
- SELECTMEN OF ANDOVER.** — Road extending from the dividing line between the towns of North Andover and Andover to the dividing line between the towns of Andover and Tewksbury. Received Mar. 12, 1931.

- SELECTMEN OF FOXBOROUGH.** — Road extending from the junction of Washington and Main Streets northeasterly, over Washington Street and new location to the dividing line between the towns of Foxborough and Walpole at the property now or formerly of Mary A. Pickering. Received Mar. 16, 1931.
- SELECTMEN OF SHARON.** — Road extending from the dividing line between the towns of Walpole and Sharon, at or near the property of Peterson Brothers, northeasterly over a new location to the dividing line between the towns of Sharon and Walpole, southwesterly of High Plain Street. Received Mar. 16, 1931.
- SELECTMEN OF PEMBROKE.** — Road extending from a point on Washington Street, about 4,000 feet north of Congress Street, southeasterly over a new location to the dividing line between the towns of Pembroke and Duxbury near Taylor Street. Received Mar. 12, 1931.
- SELECTMEN OF DUXBURY.** — Road extending from the dividing line between the towns of Pembroke and Duxbury near Taylor Street over a new location to a point on Summer Street near Franklin Street; also from a point on Summer Street near the Twin Schoolhouse over a new location to the dividing line between the towns of Duxbury and Kingston west of South Street. Received Mar. 12, 1931.
- SELECTMEN OF KINGSTON.** — Road extending from the dividing line between the towns of Duxbury and Kingston, west of Summer Street, over a new location to a point on Summer Street about 800 feet north of Tremont Street. Received Mar. 12, 1931.
- SELECTMEN OF FOXBOROUGH.** — Road extending from a point on Main Street near property of E. F. Kelly northwesterly, over a new location to the dividing line between the towns of Wrentham and Foxborough between Main Street and Pine Street. Received Mar. 23, 1931.
- SELECTMEN OF WRENTHAM.** — Road extending from a point on East Street near Everett Street easterly, over a new location to the dividing line between the towns of Wrentham and Foxborough between East Street and Pine Street. Received Mar. 23, 1931.
- SELECTMEN OF WALPOLE.** — Road extending from the dividing line between the towns of Foxborough and Walpole, at or near the property of Mary A. Pickering, northeasterly over a new location to the dividing line between Walpole and Norwood at a point westerly of Summer Street. Received Mar. 21, 1931.
- CITY COUNCIL OF LYNN.** — Road known locally as Walnut Street, extending from the dividing line between the city of Lynn and the town of Saugus to its intersection with Dungeon Avenue. Received Jan. 28, 1931.
- SELECTMEN OF RANDOLPH.** — Road extending from the southerly end of the 1909 section of State highway on North Main Street to the railroad bridge on said North Main Street. Received April 6, 1931.
- SELECTMEN OF NORTH ANDOVER.** — Road extending from the junction of Peters and Andover Streets northerly, over a new location, to a point on Osgood Street near the residence of Robert B. Smith. Received April 4, 1931.
- SELECTMEN OF ERVING.** — Road extending from the junction of Moore and Forest Streets southerly along Forest Street for about 1,400 feet to a point near Union Street. Received April 8, 1931.
- SELECTMEN OF DEERFIELD.** — Road extending from a point on the Greenfield Road west of the Boston & Maine Railroad bridge northerly to the dividing line between the towns of Deerfield and Greenfield. Received April 23, 1931.
- SELECTMEN OF GREENFIELD.** — Road extending from a point on the Deerfield Road west of the Boston & Maine Railroad bridge southerly to the dividing line between the towns of Greenfield and Deerfield. Received April 23, 1931.
- SELECTMEN OF LANCASTER.** — Road extending from the dividing line between the towns of Clinton and Lancaster to the dividing line between the towns of Lancaster and Bolton. Received April 24, 1931.
- SELECTMEN OF SEEKONK.** — Road extending from the junction of Fall River Avenue and Mink Street northwesterly over a new location to the dividing line between the States of Massachusetts and Rhode Island near the property now or formerly of Evan West. Received May 9, 1931.

- SELECTMEN OF MERRIMAC.** — Road extending from the easterly line of Merrimac Square, easterly along East Main Street to Mill Street. Received May 12, 1931.
- SELECTMEN OF NANTUCKET.** — Road locally known as Polpis Road extending from its junction with the State highway easterly through the village of Polpis and southeasterly to the village of Siasconset. Received May 14, 1931.
- SELECTMEN OF AMESBURY.** — Road extending from the junction of Haverhill Street and Hillside Avenue northeasterly along Haverhill Street to its junction with Main Street. Received June 3, 1931.
- SELECTMEN OF UXBRIDGE.** — Road extending from a point at or near the junction of Main Street and Ironstone Street, in a general southeasterly direction, in part over Ironstone Street and in part over new location, to the dividing line between the States of Massachusetts and Rhode Island. Received June 6, 1931.
- SELECTMEN OF CLINTON.** — Road locally known as Boylston Street, extending from the dividing line between the towns of Boylston and Clinton to the Lancaster Mills bridge or the square at the junction of Boylston Street and Cameron Street. Received June 17, 1931.
- COUNTY COMMISSIONERS OF HAMPSHIRE COUNTY.** — Road extending over a new location from a point on the Enfield Road in the town of Ware about three-fourths of a mile southerly of the dividing line between the towns of Enfield and Ware westerly through the towns of Ware and Belchertown to a point on the Enfield Road just west of the bridge over Jabish Brook. Received June 16, 1931.
- MAYOR AND CITY COUNCIL OF WESTFIELD.** — Road extending from the dividing line between the town of Southampton and city of Westfield southerly to the northerly location line of the Holyoke and Westfield Railroad. Also road extending from the dividing line between the town of Southwick and city of Westfield northerly to a point at or near the bridge over the Westfield Little River. Received June 23, 1931.
- SELECTMEN OF BOYLSTON.** — Road known locally as Main Street, extending from the dividing line between the towns of Shrewsbury and Boylston to the dividing line between the towns of Boylston and Clinton. Received June 25, 1931.
- SELECTMEN OF SHREWSBURY.** — Road known locally as Clinton Street, extending from the dividing line between the city of Worcester and the town of Shrewsbury to the dividing line between the towns of Boylston and Shrewsbury. Received July 1, 1931.
- SELECTMEN OF SPENCER.** — Road locally known as Maple Street extending from Main Street southerly to the dividing line between the towns of Spencer and Charlton. Received July 23, 1931.
- SELECTMEN OF CHARLTON.** — Road extending from Charlton Depot northerly to the dividing line between the towns of Charlton and Spencer. Received July 20, 1931.
- MAYOR AND ALDERMEN OF BROCKTON.** — Road extending from the junction of Center and Quincy Streets westerly along Center Street to its junction with Lyman Street. Received August 20, 1931.
- SELECTMEN OF NORWOOD.** — Road extending from a point on the dividing line between the towns of Walpole and Norwood about 275 feet southeasterly from the point where Union Street crosses said line northerly over a new location to a point on the dividing line between the towns of Westwood and Norwood about 900 feet easterly from the Ellis railroad station. Received Sept. 1, 1931.
- SELECTMEN OF FRAMINGHAM.** — Road extending from the junction of Fountain and Waverly Streets southwesterly along the Hartford Turnpike and/or Central Turnpike to the dividing line between the towns of Framingham and Ashland. Received Sept. 9, 1931.
- SELECTMEN OF ASHLAND.** — Road extending from the dividing line between the towns of Framingham and Ashland southwesterly along the Hartford Turnpike and/or Central Turnpike to the dividing line between the towns of Ashland and Hopkinton. Received Sept. 9, 1931.

- SELECTMEN OF HOPKINTON.** — Road extending from the dividing line between the towns of Ashland and Hopkinton southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Hopkinton and Upton. Received Sept. 9, 1931.
- SELECTMEN OF UPTON.** — Road extending from the dividing line between the towns of Hopkinton and Upton southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Upton and Northbridge. Received Sept. 9, 1931.
- SELECTMEN OF NORTHBRIDGE.** — Road extending from the dividing line between the towns of Upton and Northbridge, southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Northbridge and Sutton. Received Sept. 9, 1931.
- SELECTMEN OF SUTTON.** — Road extending from the dividing line between the towns of Northbridge and Sutton southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Sutton and Oxford. Received Sept. 9, 1931.
- SELECTMEN OF OXFORD.** — Road extending from the dividing line between the towns of Sutton and Oxford southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Oxford and Webster. Received Sept. 9, 1931.
- SELECTMEN OF WEBSTER.** — Road extending from the dividing line between the towns of Oxford and Webster, southwesterly along the Hartford Turnpike and/ or Central Turnpike to Webster Center. Received Sept. 9, 1931.
- SELECTMEN OF WILLIAMSTOWN.** — Road extending from the junction of the Cold Spring and Petersburg Mountain Roads southwesterly along the Cold Spring Road to its junction with the River Road in South Williamstown. Received Oct. 20, 1931.
- SELECTMEN OF BEDFORD AND CARLISLE.** — A bridge over the Concord River on the main road from Bedford to Carlisle at the dividing line between the towns of Carlisle and Bedford. Received Oct. 22, 1931.
- SELECTMEN OF LAKEVILLE.** — Road extending from the dividing line between the city of Taunton and town of Lakeville easterly over a new location, to the dividing line between the towns of Lakeville and Middleborough on Poquoy Trout Brook. Also road known as Bedford Street extending from the Middleborough line to Main Street. Received Oct. 21, 1931.
- SELECTMEN OF MIDDLEBOROUGH.** — Road extending from the dividing line between the towns of Middleborough and Lakeville on Poquoy Trout Brook easterly, over a new location, to the junction of Bedford Street and Grove Street Extension. Received Oct. 21, 1931.
- MAYOR AND MUNICIPAL COUNCIL OF TAUNTON.** — Road extending from the Dean Street railroad crossing easterly along Dean Street and new location to the dividing line between the city of Taunton and town of Raynham southeast of the junction of Dean and South Streets. Also road extending from the dividing line between the city of Taunton and town of Raynham, at the Taunton River, easterly over new location to the dividing line between the city of Taunton and town of Lakeville. Received Oct. 29, 1931.
- SELECTMEN OF RAYNHAM.** — Road extending from the dividing line between the city of Taunton and the town of Raynham southeast of the junction of South and Dean Streets easterly, over a new location, to the dividing line between the town of Raynham and the city of Taunton. Received Oct. 30, 1931.
- SELECTMEN OF STERLING.** — Road extending from a point on Worcester Street about 1,300 feet north of the bridge over the Boston & Maine and New Haven Railroads northerly to Pratts Corner. Received Oct. 29, 1931.
- SELECTMEN OF WEST BOYLSTON.** — Road extending from the dividing line between the town of West Boylston and the city of Worcester northerly over the location of the former Worcester Consolidated Street Railway to a junction with the main road in West Boylston Village. Received Oct. 30, 1931.
- SELECTMEN OF SCITUATE.** — Road extending from a point on the dividing line between the towns of Cohasset and Scituate about four-tenths of a mile southwest of the tracks of the New York, New Haven & Hartford Railroad Company southeasterly, in part over a new location and in part over the Tack

Pond Road, to a point on Main Street at or near its intersection with Judge Cushing Road. Received Nov. 12, 1931.

SELECTMEN OF COHASSET. — Road extending from the dividing line between the towns of Hingham and Cohasset at a point about 500 feet south of East Street southeasterly, in part over a new location and in part over King Street, to a point on the dividing line between the towns of Cohasset and Scituate about four-tenths of a mile southwest of the tracks of the New York, New Haven & Hartford Railroad Company. Received Nov. 12, 1931.

SELECTMEN OF HINGHAM. — Road extending from a point on Summer Street about 300 feet west of Green Street, easterly, over a new location, to the dividing line between the towns of Hingham and Cohasset at a point about 500 feet south of East Street. Received Nov. 12, 1931.

SELECTMEN OF WILMINGTON. — Road known locally as Lowell Street, extending from the junction of Routes 38 and 129 easterly to the dividing line between the towns of Wilmington and Reading. Received Nov. 13, 1931.

BOARD OF PUBLIC WORKS OF READING. — Road known locally as Lowell Street, extending from the dividing line between the towns of Wilmington and Reading easterly to Reading Square. Received Nov. 13, 1931.

SELECTMEN OF WORTHINGTON. — Road extending from the dividing line between the towns of Huntington and Worthington northwesterly along the Main Road to Worthington Corners. Received Nov. 17, 1931.

MAYOR AND ALDERMEN OF WORCESTER. — Road extending from West Boylston Street to the dividing line between the city of Worcester and the town of West Boylston. Received Oct. 24, 1931.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —

Wareham

Dec. 9, 1930, contract made with John Iafolia Construction Company, of Boston, for reconstructing about 9,248 feet of State highway on the Marion Road, the surface consisting of bituminous macadam. The proposal amounted to \$63,741.50. Work completed July 25, 1931. Expenditure during 1931, \$71,045.03.

Wilbraham

Dec. 9, 1930, contract made with The Lane Construction Corporation, of Meriden, Conn., for resurfacing and widening about 18,367 feet of State highway on the Boston Road, the surface consisting of reinforced cement concrete for about 8,488 feet, and bituminous concrete for about 9,879 feet. The proposal amounted to \$105,738.25. Work completed Aug. 18, 1931. Expenditure during 1931, \$111,450.61.

Monson-Palmer

Dec. 9, 1930, contract made with Patrick J. Holland, of Lawrence, for widening about 13,640 feet of State highway on the Boston Road in Monson and Palmer, the surface consisting of reinforced cement concrete. The proposal amounted to \$102,170.70. Work completed Aug. 1, 1931. Expenditure during 1931, \$114,978.56.

Shrewsbury

Dec. 9, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for moving buildings on the land of Ameen J. Antoun on the State highway in Shrewsbury, known as the Boston-Worcester Turnpike. The proposal amounted to \$17,900.00. Work completed July 3, 1931. Expenditure during 1931, \$18,000.00.

Shrewsbury

Dec. 9, 1930, contract made with John Moran, Inc., of Fitchburg, for moving buildings on the land of Walter C. Tufts on the State highway in Shrewsbury, known as the Boston-Worcester Turnpike. The proposal amounted to \$350.00. Work completed Dec. 11, 1930. Expenditure during 1930, \$350.00.

Shrewsbury

Dec. 9, 1930, contract made with John Moran, Inc., of Fitchburg, for moving buildings on the land of Lucia D'Errico on the State highway in Shrewsbury, known as the Boston-Worcester Turnpike. The proposal amounted to \$2,271.00. Work completed Mar. 20, 1931. Expenditure during 1931, \$2,271.00.

Chester-Huntington

Dec. 16, 1930, contract made with The Fitchburg Concrete Construction Company, of Fitchburg, for constructing and reconstructing about 11,027 feet of State highway on the Jacobs Ladder, so called, in Chester, and about 8,940 feet of the same road in Huntington, the surface consisting of bituminous macadam. The proposal amounted to \$251,877.30. Work practically completed. Expenditure during 1931, \$213,500.48.

Chilmark-West Tisbury

Dec. 16, 1930, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for reconstructing about 5,770 feet of State highway on the South Road in Chilmark, and about 7,746 feet of State highway on the same road in West Tisbury, the surface consisting of bituminous concrete. The proposal amounted to \$50,183.40. Work completed Aug. 14, 1931. Expenditure during 1931, \$51,631.01.

Sheffield

Dec. 16, 1930, contract made with the New Haven Road Construction Co., Inc., of New Haven, Conn. for reconstructing about 14,120 feet of State highway on the Ashley Falls Road, the surface consisting of reinforced cement concrete for about 10,876 feet, and bituminous macadam for about 3,244 feet. The proposal amounted to \$88,733.20. Work completed Aug. 10, 1931. Expenditure during 1931, \$89,437.08.

Bourne-Plymouth

Dec. 23, 1930, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Connecticut, for reconstructing about 4,374 feet of State highway on the Sagamore Road in Plymouth, and about 11,193 feet of State highway on the same road in Bourne, the surface consisting of bituminous concrete. The proposal amounted to \$98,553.30. Work completed July 16, 1931. Expenditure during 1931, \$105,079.04.

Barnstable

Dec. 30, 1930, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 29,800 feet of State highway on new location, the surface consisting of bituminous concrete. The proposal amounted to \$190,823.05. Work completed Nov. 30, 1931. Expenditure during 1931, \$208,509.76.

Foxborough-Wrentham-Plainville-North Attleborough

Dec. 30, 1930, contract made with D. V. Frione & Company, of New Haven, Conn., for constructing about 2,113 feet of State highway on Washington Street in North Attleborough, 16,015 feet of State highway on the same road in Plainville, 15,159 feet of State highway on the same road in Wrentham, and about 1,130 feet of State highway on Norfolk Street in Foxborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$470,585.80. Work practically completed. Expenditure during 1931, \$436,687.54.

Southbridge-Sturbridge

Dec. 30, 1930, contract made with the New Haven Road Construction Co., Inc., of New Haven, Conn., for reconstructing about 2,354 feet of State highway on the Sturbridge Road in Southbridge, and about 11,567 feet of State highway on the Southbridge Road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$116,782.60. Work completed Sept. 24, 1931. Expenditure during 1931, \$129,374.70.

Weston

Dec. 30, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for raising and moving a gasoline filling station on land of George R. Slader at the

junction of the Boston Post Road and Sibley Road. The proposal amounted to \$640.00. Work completed Feb. 9, 1931. Expenditure during 1931, \$678.00.

Weston

Jan. 6, 1931, contract made with Peter Salvucci, of Waltham, for constructing and reconstructing about 980 feet of State highway on Central Avenue, and about 5,305 feet of State highway on School Street, the surface consisting of bituminous macadam. The proposal amounted to \$258,457.40. Work practically completed. Expenditure during 1931, \$272,933.62.

Marlborough-Northborough

Jan. 6, 1931, contract made with B. Perini & Sons, Inc., of Ashland, for reconstructing about 13,190 feet of State highway on the Boston Post Road in Marlborough, and about 18,375 feet of State highway on the same road in Northborough, the surface on about 12,150 feet in Marlborough and about 13,525 feet in Northborough consisting of bituminous macadam between two sections of reinforced cement concrete, and the surface on about 1,040 feet in Marlborough and 4,850 feet in Northborough consisting of reinforced cement concrete. The proposal amounted to \$467,279.25. Work practically completed. Expenditure during 1931, \$456,681.45.

Hingham

Jan. 20, 1931, contract made with Bradford Weston, of Hingham, for repairing a culvert on the State highway in Hingham, known as Otis Street. Work completed Feb. 18, 1931. Expenditure during 1931, \$1,251.11.

Palmer

Feb. 3, 1931, contract made with John Moran, Inc., of Fitchburg, for moving buildings on land of John C. and Nellie S. Wilson on the State highway in Palmer, known as the Boston Post Road. The proposal amounted to \$1,675.00. Work completed June 3, 1931. Expenditure during 1931, \$1,675.00.

Fairhaven-New Bedford

Feb. 4, 1931, contract made with Coleman Bros., Incorporated, of Boston, for repairing the bridges over New Bedford Harbor in the town of Fairhaven and city of New Bedford. The proposal amounted to \$95,800.00. Work completed Oct. 20, 1931. Expenditure during 1931, \$118,239.39.

Avon

Mar. 31, 1931, contract made with James J. Gordon, of Hingham, for moving buildings on land of Frank M. Herland on the State highway in Avon, known as East Main Street. The proposal amounted to \$925.00. Work completed Apr. 29, 1931. Expenditure during 1931, \$925.00.

Framingham-Southborough

Apr. 14, 1931, contract made with B. Perini & Sons, Inc., of Ashland, for constructing a steel plate girder bridge over the tracks of the New York, New Haven & Hartford Railroad Company on the Worcester Turnpike in Framingham, a steel stringer bridge over the Reservoir in Framingham, about 7,633 feet of State highway on the Worcester Turnpike in Southborough, and about 17,166 feet of State highway on the same road in Framingham, the surface in Framingham and Southborough, except over the bridge over the tracks of the New York, New Haven & Hartford Railroad Company and about 1,550 feet of State highway in Framingham, consisting of two sections of reinforced cement concrete separated by a loam space with bituminous macadam and gravel shoulders, the surface over the bridge and between the tracks of the New York, New Haven & Hartford Railroad Company consisting of bituminous concrete, and the remaining surface in Framingham consisting of bituminous macadam. The proposal amounted to \$744,374.30. Work practically completed. Expenditure during 1931, \$660,859.56.

Northborough-Shrewsbury

Apr. 14, 1931, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 16,833 feet of State highway on Grafton

Street in Shrewsbury, and about 11,357 feet of State highway on the same road in Northborough, the surface consisting of reinforced cement concrete except on about 605 feet of State highway in Northborough, the surface on about 605 feet in Northborough consisting of a strip of reinforced cement concrete constructed on each side of a strip of bituminous macadam. The proposal amounted to \$446,928.60. Work practically completed. Expenditure during 1931, \$414,493.19.

Hingham-Hull

Apr. 14, 1931, contract made with The Waterbury Road Construction Company, Inc., of Hartford, Conn., for constructing about 4,034 feet of State highway on Rockland Street in Hingham, about 6,419 feet of State highway on Rockland Street, about 300 feet of State highway on Bay Street, and about 335 feet of State highway on Nantasket Avenue, in Hull, the surface consisting of bituminous macadam. The proposal amounted to \$329,073.70. Work practically completed. Expenditure during 1931, \$319,673.33.

Becket

Apr. 14, 1931, contract made with Bertolini Brothers, of New Haven, Conn., for reconstructing about 29,608 feet of State highway on the "Jacob's Ladder" Road, the surface consisting of bituminous macadam. The proposal amounted to \$327,722.45. Work practically completed. Expenditure during 1931, \$280,930.24.

Somerset-Swansea

Apr. 29, 1931, contract made with the Sherry Construction Company, Inc., of Fall River, for reconstructing and widening about 9,737 feet of State highway on Fall River Avenue in Somerset, and about 22,019 feet of State highway on the same road in Swansea, the surface consisting of reinforced cement concrete constructed on each side of the present concrete surface, except at and adjacent to the bridges, where the surface consists of bituminous macadam. Work completed Sept. 10, 1931. The proposal amounted to \$177,559.55. Expenditure during 1931, \$202,124.34.

Billerica

May 5, 1931, contract made with R. G. Watkins & Son, Inc., of Amesbury, for reconstructing about 5,450 feet of State highway on the Boston-Lowell Road in Billerica, the surface consisting of bituminous macadam. The proposal amounted to \$36,967.79. Work completed July 11, 1931. Expenditure during 1931, \$34,345.49.

Framingham

May 5, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Ella E. Livingston on the State highway in Framingham, known as the Worcester Turnpike. The proposal amounted to \$1,368.00. Work completed Sept. 15, 1931. Expenditure during 1931, \$1,368.00.

Huntington

May 5, 1931, contract made with Tarbell & Leete, Inc., of Springfield, for moving buildings on the State highway, known as the Chester road. The proposal amounted to \$8,499.00. Work completed July 15, 1931. Expenditure during 1931, \$9,309.00.

North Attleborough

May 5, 1931, contract made with Jeremiah O'Leary, of Sharon, for moving buildings of Alfred J. Courtney on the State highway in North Attleborough, known as the Providence Turnpike. The proposal amounted to \$1,890.00. Work completed July 10, 1931. Expenditure during 1931, \$1,890.00.

Plainville

May 5, 1931, contract made with Jeremiah O'Leary, of Sharon, for moving buildings on the State highway in Plainville, known as Washington Street. The proposal amounted to \$1,777.00. Work completed May 29, 1931. Expenditure during 1931, \$1,777.00.

Duxbury-Kingston-Pembroke

May 6, 1931, contract made with Eastern Contracting Company, of Quincy, for constructing and reconstructing about 41,665 feet of State highway in Duxbury, Kingston and Pembroke on Washington Street and new location, the surface consisting of bituminous macadam. The proposal amounted to \$318,886.70. Work about two-thirds completed. Expenditure during 1931, \$284,529.61.

North Andover

May 12, 1931, contract made with M. McDonough Company, of Saugus, for constructing and reconstructing 14,300 feet of State highway on Stevens Street and new location, the surface consisting of bituminous macadam. The proposal amounted to \$113,652.93. Work practically completed. Expenditure during 1931, \$115,551.07.

Bellingham-Mendon-Hopedale-Milford

May 12, 1931, contract made with G. Bonazzoli & Sons, of Hudson, for constructing about 1,031 feet of State highway on the Milford Road in Bellingham, reconstructing about 5,510 feet of State highway on the same road in Mendon, 8,467 feet of State highway on the same road in Hopedale, and about 8,126 feet of State highway on the same road in Milford, the surface consisting of bituminous macadam. The proposal amounted to \$180,006.90. Work practically completed. Expenditure during 1931, \$158,668.36.

Avon

May 12, 1931, contract made with Powers Brothers, of Brockton, for reconstructing about 3,250 feet of State highway on East Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$24,412.90. Work completed July 31, 1931. Expenditure during 1931, \$26,488.70.

Athol

May 12, 1931, contract made with The John Turgeon Company, Inc., of Hartford, Conn., for moving buildings on land of Carroll R. Trevett on the State highway in Athol. The proposal amounted to \$1,225.00. Work completed June 30, 1931. Expenditure during 1931, \$1,225.00.

West Tisbury

May 12, 1931, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for resurfacing about 4,127 feet of State highway on the Tisbury Road, the surface consisting of bituminous concrete. The proposal amounted to \$9,423.50. Work completed July 23, 1931. Expenditure during 1931, \$51,631.01.

Orange

May 12, 1931, contract made with John Moran, Inc., of Fitchburg, for moving buildings on land of Annie M. Bacon Heirs on the State highway in Orange, known as East Main Street. The proposal amounted to \$1,474.00. Work completed May 28, 1931. Expenditure during 1931, \$1,474.00.

Framingham

May 19, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Wallace A. Kendall on the State highway in Framingham, known as the Boston-Worcester Turnpike. The proposal amounted to \$1,648.00. Work completed Sept. 15, 1931. Expenditure during 1931, \$1,648.00.

Framingham

May 19, 1931, contract made with The John Cavanagh and Son Building Moving Company, of Boston, for moving buildings on land of Hanna E. Clapp on the State highway in Framingham, known as the Boston-Worcester Turnpike. The proposal amounted to \$2,650.00. Work completed Aug. 18, 1931. Expenditure during 1931, \$2,650.00.

Deerfield-Greenfield

May 19, 1931, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing a steel bridge and approaches thereto on about 2,026 feet of State highway at the dividing line between the towns of Deerfield and Greenfield, the surface over the bridge consisting of bituminous concrete, and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$243,794.75. Work about three-fourths completed. Expenditure during 1931, \$179,843.14.

Salisbury

May 26, 1931, contract made with James E. Watkins Company, Inc., of Amesbury, for widening about 8,914 feet of State highway on the Newburyport Road, the surface consisting of bituminous macadam. The proposal amounted to \$16,904.00. Work completed July 18, 1931. Expenditure during 1931, \$16,315.12.

Milton-Randolph-Quincy

May 26, 1931, contract made with Ezekiel C. Sargent, of Quincy, for constructing about 5,305 feet of shoulders on the State highway in Randolph, 14,700 feet of shoulders on the State highway in Quincy, and about 1,900 feet of shoulders on the State highway in Milton, the surface consisting of bituminous macadam. The proposal amounted to \$8,693.00. Work completed Aug. 24, 1931. Expenditure during 1931, \$9,412.14.

Southborough

June 2, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Eugene and Mary Mauro, and Isaac and Flora Gelina, on the State highway in Southborough, known as the Boston-Worcester Turnpike. The proposal amounted to \$3,116.00. Work three-fourths completed. Expenditure during 1931, \$2,244.51.

Southborough

June 2, 1931, contract made with John Moran, Inc., of Fitchburg, for moving buildings on land of Walter E. Brewer on the State highway in Southborough, known as the Boston-Worcester Turnpike. The proposal amounted to \$1,670.00. Work completed Aug. 11, 1931. Expenditure during 1931, \$1,719.68.

Erving

June 9, 1931, contract made with the Lawton Construction Company, of Providence, R. I., for constructing a steel stringer bridge over Moore Street, a steel stringer bridge over the Central Vermont Railroad, and about 9,775 feet of State highway, the surface of the roadway consisting of bituminous macadam, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$193,597.10. Work about two-thirds completed. Expenditure during 1931, \$135,816.04.

Southborough

June 9, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Arthur Brewer on the State highway in Southborough, known as the Boston-Worcester Turnpike. The proposal amounted to \$3,187.00. Work completed Oct. 31, 1931. Expenditure during 1931, \$3,187.00.

Newbury-Rowley

June 16, 1931, contract made with M. McDonough Co., of Saugus, for constructing an extension to the concrete arch bridge over the tracks of the Boston & Maine Railroad in Rowley, reconstructing about 5,237 feet of State highway on High Street in Newbury, and reconstructing about 24,411 feet of State highway on Bay Road in Rowley, the surface consisting of bituminous macadam. The proposal amounted to \$211,454.80. Work practically completed. Expenditure during 1931, \$219,592.54.

Hinsdale

June 16, 1931, contract made with the Lee Construction Co., Inc., of Boston, for constructing a steel bridge and approaches on about 1,621 feet of State highway on new location and Taylor Street, the surface except over the bridge consisting

of bituminous macadam, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$61,621.90. Work about three-fourths completed. Expenditure during 1931, \$45,805.12.

Amesbury-Merrimac-Haverhill

June 16, 1931, contract made with Patrick J. Holland, of Lawrence, for constructing and reconstructing about 42,710 feet of State highway on Amesbury Road in Haverhill, West Main and East Main Streets in Merrimac, and Haverhill Road in Amesbury, the surface consisting of bituminous macadam and reinforced cement concrete. The proposal amounted to \$135,049.80. Work completed Oct. 24, 1931. Expenditure during 1931, \$155,440.76.

Southborough

June 16, 1931, contract made with John Moran, Inc., of Fitchburg, for raising buildings of Robert H. and Edith S. Beals, and of Charles Fantony, on the State highway in Southborough. The proposal amounted to \$2,743.00. Work completed Aug. 18, 1931. Expenditure during 1931, \$2,743.00.

Bernardston

June 16, 1931, contract made with Warner Bros. and Goodwin, Inc., of Sunderland, for constructing a bridge and approaches on about 1,986 feet of State highway on Northfield Road, the surface except over the bridge consisting of bituminous macadam, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$33,662.30. Work completed Oct. 24, 1931. Expenditure during 1931, \$27,471.86.

Northborough

June 23, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings of Muriel Lacier, Alice I. Mellen and Margaret A. Bottger on the Boston Post Road in Northborough. The proposal amounted to \$3,338.00. Work completed Nov. 2, 1931. Expenditure during 1931, \$2,550.00.

Andover-North Reading-Reading

June 23, 1931, contract made with Patrick J. Holland, of Lawrence, for constructing and reconstructing about 14,103 feet of State highway on North Main Street in Reading, 13,462 feet of State highway on the same road in North Reading, and 2,400 feet of State highway on the same road in Andover, including a bridge over Main Street in Andover, the surface, except over the bridge and about 1,675 feet of State highway in Andover, consisting of bituminous macadam between two sections of reinforced cement concrete, the surface over the bridge in Andover consisting of bituminous concrete, and the surface on 1,675 feet of State highway in Andover consisting of reinforced cement concrete. The proposal amounted to \$368,005.40. Work practically completed. Expenditure during 1931, \$423,976.24.

Framingham-Southborough

June 30, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings of Charles and Carolina Brusie on the State highway, known as the Boston-Worcester Turnpike, in Southborough, and of Katherine C. Warner on the same road in Framingham. The proposal amounted to \$1,325.00. Work about two-thirds completed. Expenditure during 1931, \$832.32.

Groton-Pepperell

June 30, 1931, contract made with D. and C. Construction Company, of Fitchburg, for reconstructing about 7,276 feet of State highway on Main Street in Groton, and about 1,317 feet of State highway on South Street in Pepperell, the surface consisting of bituminous macadam. The proposal amounted to \$80,800.00. Work about one-half completed. Expenditure during 1931, \$53,715.44.

Kingston

June 30, 1931, contract made with C. A. Batson Company, of Brockton, for moving buildings of Abbie Randall on Summer Street in the town of Kingston.

The proposal amounted to \$2,695.00. Work completed Sept. 25, 1931. Expenditure during 1931, \$2,772.36.

Abington-Brockton

June 30, 1931, contract made with Corrado & Lepore Construction Company, of Providence, R. I., for reconstructing about 3,467 feet of State highway on Center Street in Brockton, and constructing and reconstructing about 9,622 feet of State highway on Brockton Avenue in Abington, the surface consisting of bituminous macadam. The proposal amounted to \$79,890.20. Work completed Nov. 20, 1931. Expenditure during 1931, \$80,558.15.

Erving

July 14, 1931, contract made with John Moran, Inc., of Fitchburg, for moving dwelling of Alice F. Prouty on the State highway in Erving. The proposal amounted to \$2,670.00. Work completed Aug. 15, 1931. Expenditure during 1931, \$2,670.00.

Foxborough-Sharon-Walpole-Wrentham

July 21, 1931, contract made with State Construction Co., Inc., of Saugus, for constructing about 14,995 feet of State highway, including three bridges, in Foxborough, 6,762 feet of State highway in Walpole, 3,675 feet of State highway in Sharon, and 2,316 feet of State highway in Wrentham, the surface, except over the bridges and on about 2,316 feet of State highway in Wrentham and about 2,629 feet of State highway in Foxborough, consisting of reinforced cement concrete, the surface on about 2,316 feet of State highway in Wrentham and on about 2,629 feet of State highway in Foxborough consisting of bituminous macadam, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$441,548.10. Work about one-half completed. Expenditure during 1931, \$210,186.95.

Deerfield

July 28, 1931, contract made with The John Turgeon Co., Inc., of Hartford, Conn., for moving building of Francesco Bartugno on the State highway in Deerfield. The proposal amounted to \$2,150.00. Work completed Sept. 25, 1931. Expenditure during 1931, \$2,150.00.

Greenfield

Aug. 4, 1931, contract made with The John Turgeon Co., Inc., of Hartford, Conn., for moving building of Harry E. Ward on the southwesterly side of Cheap-side Bridge in Greenfield. The proposal amounted to \$2,050.00. Work completed Nov. 30, 1931. Expenditure during 1931, \$2,050.00.

Mendon

Aug. 4, 1931, contract made with William Melvin, of Milford, for moving school-house buildings on the State highway in the town of Mendon. The proposal amounted to \$1,600.00. Work completed Sept. 8, 1931. Expenditure during 1931, \$1,600.00.

Auburn-Worcester

Aug. 4, 1931, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing a bridge and about 24,536 feet of State highway on South-bridge Street in Auburn, and about 1,000 feet of State highway on the same street in Worcester, the surface except over the bridge consisting of reinforced cement concrete, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$368,251.35. Work about one-third completed. Expenditure during 1931, \$87,431.64.

Gill-Greenfield

Aug. 6, 1931, contract made with Kelleher Corporation, of Montague, for constructing a steel bridge at the Gill-Greenfield line, about 9,362 feet of State highway on the Gill road in Greenfield, and about 17,810 feet of State highway on the same road in Gill, the surface except over the bridge consisting of bituminous macadam, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$356,234.00. Work about one-third completed. Expenditure during 1931, \$118,439.81.

Rehoboth-Seekonk-Swansea

Aug. 6, 1931, contract made with the Sherry Construction Company, Inc., of Fall River, for constructing, reconstructing and widening about 16,291 feet of State highway on Fall River Avenue and new location in Seekonk, about 3,661 feet of State highway on Fall River Avenue in Rehoboth, and about 6,993 feet of State highway on the same road in Swansea, the surface, except on about 4,340 feet of State highway in Seekonk, consisting of reinforced cement concrete or bituminous macadam constructed on each side of the present concrete surface, the surface on about 4,340 feet of State highway in Seekonk consisting of reinforced cement concrete. The proposal amounted to \$183,930.20. Work completed Nov. 28, 1931. Expenditure during 1931, \$178,336.00.

Northborough

Aug. 11, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving building of Edward B., Herbert W., and Chester J. Smith on the State highway in Northborough, known as the Boston Post Road. The proposal amounted to \$838.00. Work completed Nov. 19, 1931. Expenditure during 1931, \$641.07.

Egremont

Aug. 18, 1931, contract made with Bertolini Brothers, of Chester, for reconstructing about 16,968 feet of State highway on Molasses Hill Road, the surface consisting of bituminous macadam. The proposal amounted to \$132,316.70. Work about one-sixth completed. Expenditure during 1931, \$27,071.10.

Brockton

Sept. 1, 1931, contract made with Powers Brothers, of Brockton, for constructing about 4,763 feet of State highway on Centre Street, the surface consisting of bituminous macadam. The proposal amounted to \$36,041.80. Work completed Nov. 30, 1931. Expenditure during 1931, \$36,088.77.

Gill-Erving

Sept. 1, 1931, contract made with Simpson Bros. Corporation, of Boston, for constructing a bridge sub-structure over the Connecticut River. The proposal amounted to \$102,262.00. Work about four-fifths completed. Expenditure during 1931, \$80,581.87.

Uxbridge

Sept. 15, 1931, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 22,151 feet of State highway on Ironstone Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$266,548.15. Work about one-sixth completed. Expenditure during 1931, \$43,252.46.

Hingham

Sept. 15, 1931, contract made with Thomas Whalen & Sons, Inc., of Whitman, for widening about 4,808 feet of State highway on Summer and Rockland Streets in Hingham, the surface consisting of a section of reinforced cement concrete constructed on each side of the present concrete surface. The proposal amounted to \$21,732.80. Work completed Nov. 13, 1931. Expenditure during 1931, \$20,222.39.

Millbury-Worcester

Sept. 22, 1931, contract made with A. I. Savin Company, of Hartford, Conn., for constructing about 6,158 feet of State highway in Worcester, and about 5,065 feet of State highway in Millbury, including the construction of three bridges in Millbury, the surface except over the bridges in Millbury consisting of reinforced cement concrete, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$412,145.35. Work about one-sixth completed. Expenditure during 1931, \$75,398.02.

Townsend

Sept. 22, 1931, contract made with P. J. Keating Company, of Fitchburg, for constructing extensions to three bridges over Willard Brook and the approaches to

said bridges on the State highway in Townsend known as the Ashby Road, the surface consisting of gravel. The proposal amounted to \$34,667.60. Work about one-third completed. Expenditure during 1931, \$14,746.13.

Salisbury

September 29, 1931, contract made with James E. Watkins Company, Inc., of Amesbury, for reconstructing about 11,582 feet of State highway on the Beach Road, the surface consisting of bituminous macadam. The proposal amounted to \$68,344.10. Work about one-third completed. Expenditure during 1931, \$24,596.15.

Huntington

Sept. 29, 1931, contract made with Tarbell & Leete, Inc., of Springfield, for moving building of Fred and Josephine Frazier on the State highway in Huntington known as the Chester Road. The proposal amounted to \$2,185.00. Work about one-half completed. Expenditure during 1931, \$1,785.00.

Townsend

Oct. 6, 1931, contract made with P. J. Keating Company, of Fitchburg, for widening a bridge and approaches on the State highway known as the Ashby Road, the surface consisting of gravel. The proposal amounted to \$4,485.00. Work about one-half completed. Expenditure during 1931, \$2,009.67.

Randolph

Oct. 13, 1931, contract made with Powers Brothers, of Brockton, for constructing about 4,967 feet of State highway on North Main Street, the surface consisting of concrete. The proposal amounted to \$53,816.20. Work just commenced. Expenditure during 1931, \$2,321.18.

Barnstable

Oct. 13, 1931, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 5,116 feet of State highway on the Hyannis-Centerville Road, and about 8,900 feet of State highway on the Falmouth Road, the surface consisting of bituminous concrete. The proposal amounted to \$58,494.00. Expenditure during 1931, \$20,637.91. Work about two-fifths completed.

Ashby

Oct. 20, 1931, contract made with Antonio Pallotto, of Dracut, for widening a bridge and approaches on the State highway in Ashby, known as the Fitchburg Road, the surface consisting of bituminous macadam. The proposal amounted to \$27,325.50. Work about one-fourth completed. Expenditure during 1931, \$7,198.70.

Framingham-Natick

Oct. 20, 1931, contract made with B. Perini & Sons, of Ashland, for constructing a steel stringer bridge at Concord Street in Framingham, a steel stringer bridge at North Main Street in Natick, about 11,264 feet of State highway on Worcester Street in Framingham, and about 18,331 feet of State highway on the same road in Natick, the surface, except over the bridges, consisting of cement concrete, the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$646,045.14. Work just commenced. Expenditure during 1931, \$18,761.51.

Sharon-Walpole-Norwood

Nov. 3, 1931, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing about 6,177 feet of State highway on the Old Post Road in Sharon, 9,321 feet of State highway on the same road in Walpole, and about 13,325 feet of State highway on the same road in Norwood, the surface consisting of reinforced cement concrete. The proposal amounted to \$359,550.45. Work just commenced. Expenditure during 1931, \$2,847.50.

Shrewsbury-Worcester

Nov. 3, 1931, contract made with E. D. Ward Company, of Worcester, for constructing a steel stringer bridge at Grafton Street in Worcester, about 8,371 feet

of State highway on Massasoit Street in Worcester, and about 7,550 feet of State highway on the same road in Shrewsbury, the surface, except over the bridge in Worcester and about 2,500 feet of State highway in Shrewsbury, consisting of reinforced cement concrete, the surface over the bridge consisting of bituminous concrete, and the surface on about 2,500 feet of State highway in Shrewsbury consisting of bituminous macadam. The proposal amounted to \$380,999.10. Work just commenced. Expenditure during 1931, \$4,962.30.

Gill-Erving

Nov. 10, 1931, contract made with McClintic-Marshall Corporation, of Bethlehem, Pennsylvania, for constructing a steel bridge superstructure over the Connecticut River at the dividing line between the towns of Gill and Erving, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$256,910.30. Work not yet commenced.

Ipswich

Nov. 10, 1931, contract made with R. G. Watkins & Son, Inc., of Amesbury, for reconstructing bridge approaches on about 977 feet of State highway, known as High Street, in Ipswich, the surface except over the railroad bridge consisting of bituminous macadam, and the surface over the railroad bridge consisting of bituminous concrete. The proposal amounted to \$10,394.15. Work not yet commenced.

Williamstown

Nov. 10, 1931, contract made with Ralph E. Bull, of Fitchburg, for constructing about 9,446 feet of State highway on the Petersburg Mountain Road, the surface consisting of bituminous macadam. The proposal amounted to \$72,682.98. Work just commenced. Expenditure during 1931, \$2,891.27.

Uxbridge

Nov. 24, 1931, contract made with the Waterbury Road Construction Company, Inc., of Hartford, Conn., for constructing a bridge and approaches on about 1,510 feet of State highway on the Millville Road, the surface consisting of bituminous macadam. The proposal amounted to \$41,811.50. Work not yet commenced.

Lakeville-Middleborough

Nov. 24, 1931, contract made with Arute Bros., Incorporated, of New Britain, Conn., for constructing about 3,602 feet of State highway on Bedford Street in Middleborough, and 17,800 feet of State highway on the same road in Lakeville, the surface consisting of sections of bituminous macadam between two sections of reinforced cement concrete, bituminous macadam, and bituminous concrete. The proposal amounted to \$243,468.10. Work not yet commenced.

Swampscott-Salem

Nov. 24, 1931, contract made with M. McDonough Co., of Saugus, for reconstructing about 7,383 feet of State highway on Loring Avenue in Salem, and about 5,612 feet of State highway on Paradise Road in Swampscott, the surface consisting of bituminous macadam. The proposal amounted to \$108,411.90. Work not yet commenced.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were: —

Barnstable, \$307,500.95
Berkshire, \$79,180.43
Bristol, \$409,625.29
Essex, \$207,139.92
Franklin, \$619,725.49
Hampden, \$261,276.52

Hampshire, \$125,856.05
Middlesex, \$736,924.24
Norfolk, \$505,233.95
Plymouth, \$418,226.19
Worcester, \$2,337,268.70
Total, \$6,007,957.73

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$246,088.86; Bourne, \$35,063.02; Sandwich, \$26,349.07.

Berkshire County. — Dalton, \$15,536.81; Lee, \$2,365.26; Sandisfield, \$7,950.98; Williamstown, \$140.74; Windsor, \$53,186.64.

Bristol County. — Attleboro, \$182,748.38; North Attleborough, \$170,723.13; Seekonk, \$56,153.78.

Essex County. — Amesbury, \$12,648.86; Merrimac, \$8,499.50; Newbury, \$49,541.88; North Andover, \$113,274.42; Rowley, \$23,175.26.

Franklin County. — Ashfield, \$171,582.85; Bernardston, \$32,231.93; Buckland, \$3,235.92; Charlemont, \$25,333.12; Conway, \$134,815.06; Deerfield, \$103,817.31; Greenfield, \$108,054.74; Orange, \$40,654.56.

Hampden County. — Chester, \$143,478.52; Monson, \$1,881.50; Palmer, \$115,916.50.

Hampshire County. — Cummington, \$2,239.11; Huntington, \$123,616.94.

Middlesex County. — North Reading, \$7,240.33; Reading, \$4,234.81; Tyngsborough, \$444,436.77; Waltham, \$24,863.43; Weston, \$256,148.90.

Norfolk County. — Avon, \$40,661.07; Foxborough, \$12,427.76; Milton, \$10,740.04; Plainville, \$248,554.36; Randolph, \$2,809.05; Wrentham, \$190,041.67.

Plymouth County. — Abington, \$7,555.85; Bridgewater, \$30,694.56; Brockton, \$81,108.11; Duxbury, \$122,315.24; Kingston, \$31,145.05; Mattapoisett, \$16,070.66; Middleborough, \$37,059.19; Pembroke, \$92,277.53.

Worcester County. — Athol, \$33,101.23; Dudley, \$91,206.03; Hopedale, \$56,444.76; Mendon, \$38,945.22; Milford, \$88,267.29; Northborough, \$170,788.81; Shrewsbury, \$588,420.72; Southborough, \$371,021.58; Southbridge, \$39,666.31; Westborough, \$859,406.75.

Expenditures under the provisions of Chapter 119, Acts of 1931:

Hingham, \$129,419.96

Hull, \$199,748.09

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931 For State Highway Construction

Framingham-Southborough	\$853,922.31	Framingham-Natick	\$36,143.19
Northborough-Shrewsbury	442,256.08	Millbury-Worcester	86,824.74
Foxborough-Sharon-Walpole-Wrentham	217,932.56	Sharon-Walpole-Norwood	3,053.23
Auburn-Worcester	94,856.20	Worcester-Shrewsbury	5,885.18
Gill-Greenfield	125,532.97	Williamstown	2,938.62
Erving-	144,021.08	Lakeville-Middleborough	35 10
Gill-Erving	81,686.12	Uxbridge	45,355.02
Erving-Gill	2,458.51		
			<hr/>
			\$2,142,900.91

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws). The expenditures during the year in various counties were: —

Barnstable, \$256,426.24
Berkshire, \$1,090,395.49
Bristol, \$763,297.21
Dukes, \$65,844.73
Essex, \$910,801.15
Franklin, \$103,569.18
Hampden, \$521,413.68
Hampshire, \$117,416.78

Middlesex, \$1,085,571.74
Nantucket, \$509.87
Norfolk, \$304,926.09
Plymouth, \$672,332.96
Suffolk, \$20,804.94
Worcester, \$986,660.68
Total, \$6,899,970.74

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$35,444.94; Bourne, \$112,773.96; Brewster, \$43,003.47; Chatham, \$3,038.73; Dennis, \$2,421.62; Eastham, \$3,668.23; Falmouth, \$18,271.81; Harwich, \$2,429.40; Mashpee, \$3,808.14; Orleans, \$4,030.56; Provincetown, \$2,705.29; Sandwich, \$12,181.11; Truro, \$3,994.34; Wellfleet, \$3,903.10; Yarmouth, \$4,751.54.

Berkshire County. — Adams, \$1,795.45; Becket, \$505,783.59; Cheshire, \$12,-206.85; Clarksburg, \$4,710.09; Dalton, \$7,164.15; Egremont, \$37,959.43; Florida, \$7,829.32; Great Barrington, \$13,543.95; Hancock, \$6,405.45; Hinsdale, \$6,261.52; Lanesborough, \$6,218.03; Lee, \$97,883.35; Lenox, \$13,337.53; New Ashford, \$3,619.09; New Marlborough, \$321.38; North Adams, \$9,385.24; Otis, \$2,585.32; Pittsfield, \$17,937.60; Richmond, \$2,637.87; Sandisfield, \$5,134.80; Savoy, \$1,320.09; Sheffield, \$123,948.17; Stockbridge, \$9,847.65; Washington, \$4,641.43; West Stockbridge, \$277.85; Williamstown, \$15,593.78; Windsor, \$172,046.51.

Bristol County. — Acushnet, \$2,622.02; Attleborough, \$4,066.98; Berkley, \$1,213.26; Dartmouth, \$10,499.25; Dighton, \$19,806.37; Easton, \$14,701.00; Fairhaven, \$15,595.35; Fall River, \$71.64; Freetown, \$12,259.63; Mansfield, \$5,927.68; New Bedford, \$120,462.95; Norton, \$10,565.94; North Attleborough, \$44,876.07; Raynham, \$3,885.85; Rehoboth, \$53,394.29; Seekonk, \$88,239.03; Somerset, \$80,450.16; Swansea, \$239,069.70; Taunton, \$31,642.37; Westport, \$3,947.67.

Dukes County. — Chilmark, \$19,579.16; Edgartown, \$1,949.38; Gay Head, \$711.43; Oak Bluffs, \$455.12; Tisbury, \$1,080.72; West Tisbury, \$42,068.92.

Essex County. — Amesbury, \$58,346.28; Andover, \$139,285.79; Beverly, \$11,317.09; Danvers, \$20,102.18; Essex, \$5,162.09; Gloucester, \$10,211.64; Groveland, \$2,860.28; Hamilton, \$10,366.74; Haverhill, \$72,840.68; Ipswich, \$11,462.31; Lawrence, \$1,492.96; Lynn, \$12,204.46; Lynnfield, \$3,311.16; Merrimac, \$41,877.54; Methuen, \$7,876.38; Middleton, \$5,498.71; Newbury, \$95,-879.95; Newburyport, \$2,805.63; North Andover, \$45,487.51; Peabody, \$7,950.37; Rockport, \$956.28; Rowley, \$202,883.55; Salem, \$10,221.22; Salisbury, \$72,-439.47; Saugus, \$11,627.79; Swampscott, \$2,410.89; Topsfield, \$10,337.64; Wenham, \$26,927.68; West Newbury, \$6,656.88.

Franklin County. — Ashfield, \$1,816.84; Bernardston, \$4,813.26; Buckland, \$15,778.20; Charlemont, \$17,599.15; Colrain, \$987.80; Conway, \$1,483.71; Deerfield, \$9,801.25; Erving, \$8,530.63; Gill, \$913.66; Greenfield, \$9,456.63; Montague, \$4,642.33; Northfield, \$5,574.56; Orange, \$3,597.53; Shelburne, \$10,430.19; Sunderland, \$6,129.35; Whately, \$2,014.09.

Hampden County. — Agawam, \$16,212.22; Blandford, \$6,014.87; Brimfield, \$7,607.19; Chester, \$87,403.09; Chicopee, \$7,258.50; East Longmeadow, \$1,476.66; Holyoke, \$4,524.82; Monson, \$50,104.99; Palmer, \$166,654.50; Russell, \$9,260.37; Southwick, \$3,942.18; Tolland, \$343.49; Wales, \$2,428.08; Westfield, \$7,494.31; West Springfield, \$6,943.15; Wilbraham, \$143,745.26.

Hampshire County. — Amherst, \$7,005.64; Belchertown, \$3,262.61; Cummington, \$10,447.85; Easthampton, \$11,097.91; Goshen, \$4,259.35; Granby, \$5,015.55; Hadley, \$2,117.72; Hatfield, \$4,910.03; Huntington, \$25,348.96; Northampton, \$12,809.68; Southampton, \$2,770.12; South Hadley, \$13,560.48; Ware, \$8,770.49; Williamsburg, \$6,040.39.

Middlesex County. — Acton, \$11,356.10; Arlington, \$14,580.13; Ashby, \$14,-231.76; Ashland, \$4,070.38; Ayer, \$3,462.56; Bedford, \$6,851.11; Billerica, \$50,146.74; Boxborough, \$5,891.17; Burlington, \$3,365.26; Chelmsford, \$3,305.71; Concord, \$9,003.11; Dracut, \$8,898.41; Framingham, \$9,789.43; Groton, \$55,039.91; Holliston, \$6,959.51; Hudson, \$1,313.30; Lexington, \$4,173.98; Lincoln, \$1,794.16; Littleton, \$10,765.10; Lowell, \$3,308.35; Malden, \$24.59; Marlborough, \$237,472.78; Medford, \$1,494.95; Melrose, \$10,293.33; Natick, \$2,240.35; Newton, \$480.39; North Reading, \$207,794.83; Pepperell, \$18,069.67; Reading, \$191,089.00; Shirley, \$3,651.28; Somerville, \$713.78; Stoneham, \$1,946.28; Sudbury, \$3,892.91; Tewksbury, \$3,026.60; Townsend, \$24,023.89; Tyngsborough, \$3,778.58; Waltham, \$735.80; Watertown, \$1,701.58; Wayland, \$2,744.65; Westford, \$7,104.37; Weston, \$121,268.91; Wilmington, \$2,020.93; Winchester, \$6,089.19; Woburn, \$5,606.92.

Nantucket County. — Nantucket, \$509.87.

Norfolk County. — Avon, \$79,680.95; Bellingham, \$9,187.80; Braintree, \$7,763.61; Canton, \$12,520.10; Cohasset, \$2,841.55; Dedham, \$32,501.13; Dover, \$3,534.41; Foxboro, \$12,009.48; Franklin, \$997.18; Holbrook, \$3,668.17; Milton, \$8,966.04; Needham, \$364.35; Norwood, \$4,231.91; Plainville, \$2,151.85; Quincy, \$13,022.43; Randolph, \$44,621.59; Sharon, \$345.89; Stoughton, \$8,239.79

Walpole, \$2,194.86; Wellesley, \$2,783.33; Westwood, \$1,224.96; Weymouth, \$38,981.83; Wrentham, \$12,275.05; Norfolk, \$817.83.

Plymouth County. — Abington, \$70,520.21; Bridgewater, \$55,523.24; Brockton, \$32,354.50; Duxbury, \$39,480.48; East Bridgewater, \$103,794.42; Hanover, \$12,213.17; Hingham, \$38,301.13; Kingston, \$1,172.08; Lakeville, \$8,018.66; Marion, \$5,791.13; Marshfield, \$7,022.22; Mattapoisett, \$4,078.47; Middleborough, \$16,113.51; Norwell, \$2,019.34; Pembroke, \$71,162.85; Plymouth, \$38,314.17; Rochester, \$1,580.86; Rockland, \$858.92; Scituate, \$5,700.34; Wareham, \$155,191.49; West Bridgewater, \$1,472.42; Whitman, \$1,649.35.

Suffolk County. — Boston, \$4,159.74; Chelsea, \$832.00; Revere, \$15,813.20.

Worcester County. — Ashburnham, \$7,563.88; Athol, \$2,459.77; Auburn, \$4,633.77; Barre, \$19,609.20; Blackstone, \$1,317.54; Brookfield, \$1,582.40; Charlton, \$8,256.57; Douglas, \$382.41; Dudley, \$1,582.33; East Brookfield, \$9,231.43; Fitchburg, \$4,086.70; Gardner, \$23,695.42; Grafton, \$7,818.34; Hardwick, \$597.58; Harvard, \$4,983.17; Holden, \$6,276.86; Hopedale, \$1,724.28; Lancaster, \$1,304.65; Leicester, \$13,671.65; Leominster, \$1,294.65; Lunenburg, \$13,488.64; Mendon, \$3,091.44; Milford, \$1,387.71; Millbury, \$1,639.98; Millville, \$2,165.76; New Braintree, \$369.98; North Brookfield, \$22,422.82; Northborough, \$343,972.33; Northbridge, \$11,309.68; Oakham, \$1,478.26; Oxford, \$5,056.33; Paxton, \$4,562.85; Petersham, \$4,997.40; Phillipston, \$1,529.88; Princeton, \$576.06; Rutland, \$11,170.54; Shrewsbury, \$217,491.99; Southborough, \$3,235.15; Southbridge, \$21,009.15; Spencer, \$1,560.57; Sterling, \$12,032.07; Sturbridge, \$113,323.44; Sutton, \$6,255.11; Templeton, \$22,016.28; Upton, \$3,768.11; Uxbridge, \$6,621.29; Warren, \$5,919.23; Webster, \$843.70; West Boylston, \$5,199.39; West Brookfield, \$2,149.62; Westminster, \$4,243.56; Westborough, \$3,115.14; Winchendon, \$2,993.80; Worcester, \$3,590.82.

Miscellaneous expenditures are as follows: —

9 snow plows	\$12,396 02	
7 spreaders	5,070 94	
Truck repairs	17,137 29	
Truck operation	5,534 33	
Truck plow repairs	29,999 78	
Tractor repairs	14,534 89	
Tractor operation	6,759 14	
Tractor plow repairs	17,206 95	
Snow fence	1,727 24	
Expenditures under towns	399,383 64	
		\$509,750 22
Warning signs	\$40,775 19	
Direction signs	76,644 34	
Control signals	22,275 15	
Traffic survey	23,343 22	
Traffic accidents	649 95	
Traffic permits	1,926 57	
		165,614 34
Somerset Bridge	\$13,444 24	
Newburyport Bridge	7,773 97	
Fairhaven-New Bedford Bridge	22,762 93	
		43,981 14
Detour bulletins		5,715 93
Tercentenary signs		635 96
Total of miscellaneous expenditures		\$725,697 59

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months

such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,564 miles of highways on the principal routes of travel, 1,468 miles of which are State highways and 96 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$509,750.22, which includes the cost of the maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand or use on icy conditions of the road surfaces.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued three bulletins, two in previous years and the third bulletin during the current year. These bulletins are as follows: Bulletin No. 1, "Recommendations and Requirements relating to Through Ways"; Bulletin No. 2, "A Standard Code for Traffic Signal Installation and Operation"; Bulletin No. 3, "A Standard Code for Traffic Signs, Warning Beacons and Islands." These present the standards which are required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1931	Previously	Total to Date
Traffic Signals, at intersections	66	551	617
Traffic Beacons	55	125	180
"Through Ways"	14	87	101
Traffic Signs and Markings	56	85	141
Traffic Rules and Regulations	70	118	188

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling. Ninety-five automobile routes have been selected, including practically every city, town and village in the Commonwealth, having a total mileage of 3,200 miles. Included in this designation are the so-called United States routes, the numbering of which conforms to the numbers approved by the United States Bureau of Public Roads. The other routes selected are numbered according to the State's designation.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

Many new warning signs, including plain signs, reflecting button signs, as well as electric flashing beacons and neon signs, have been erected and a new type of sign intended to direct traffic movement at the new grade separations along some of the recently constructed highways has been installed. This type of intersection is new to the travelling public so that many more signs were required to direct traffic at such locations as the Tyngsborough bridge and grade separations on the new Boston-Worcester Turnpike. There have also been designed and erected signs for designating important rivers and bodies of water on the main routes through the State. Flood lighting has been provided at several intersections to illuminate islands and planted areas.

The adoption of the route markers equipped with reflecting buttons has proven the greatest aid for night driving. A total of 14,433 such markers have been made to date for use on the highways.

The Department installed traffic control signals at twenty-two intersections during the year; eleven were installed in 1930 and one in 1929; making a total to date of thirty-four signals.

The Department has designated portions of two highways as "through ways," aggregating 26 miles, and also thirteen other stretches of highways aggregating 51.3 miles, at the request of cities and towns in which these ways are located.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

TRAFFIC ACCIDENT STUDIES

Studies have been continued to ascertain the attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points. Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

In connection with the study of such data a large wall map is used to locate by pins the points where accidents occur. The data obtained by the traffic count are also used in connection with the records of accidents on numbered automobile routes. It is believed that these studies will assist in determination of hazardous conditions so that the physical characteristics or traffic control measures, or both, will be altered to produce greater factors of safety at such points on the highways.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-six years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highways is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise trimming that may be necessary for the construction of light and power transmission lines. In connection with this work there are three nurseries maintained in which the types of trees and shrubs suitable for use on the highways of Massachusetts are grown and made available for use by the Department.

During the year 2,547 trees were planted, making a total for the past twenty-seven years of 62,224 trees planted; and in this year 7,273 shrubs have been

planted throughout the State; in addition, 14,285 small pines have been planted on bare slopes and ragged cuts.

The Department made provisions in November for the employment during the coming winter of a large number of men in an endeavor to alleviate the unemployment situation. It is expected that 1,000 to 1,800 men will thus be given at least part time employment. These men are to be employed on maintenance activities of the Department as they relate to the roadside care and improvement, such as trimming out undesirable growth and removing trees of little value, with the aim of improving visibility at hazardous locations, opening up vistas for the greater enjoyment of the scenic features of the highways, and of advancing greatly the usual activities of the Department in this kind of work.

During the past year the Department has acquired a farm of approximately 90 acres in the town of Sudbury where it is proposed to establish an up-to-date nursery for the growing of trees and shrubs for highway beautification purposes.

Many of the trees used at present have been grown in the nursery conducted on land at Palmer owned by the Department of Conservation.

The buildings on the new property are being remodeled to fit the needs of the nursery and all trees and shrubs now located in Palmer will be transplanted during the coming year.

STATE HIGHWAY LIGHTING

The Department was authorized and directed to provide lighting of a section of the Boston-Salem Turnpike in the cities of Lynn and Revere and the town of Saugus, by Chapter 447, Acts of 1931, which is as follows:

"The department of public works is hereby authorized and directed to install and maintain a system of street lighting on that section of the state highway known as the Boston-Salem turnpike lying between Ward street in the city of Revere and the northerly terminus of Fox Hill bridge in the city of Lynn, and may make such contracts therefor as may be necessary. The installation and maintenance of such lighting system shall serve as a demonstration in respect to the expediency of installing and maintaining similar systems on other state highways. All expense incurred hereunder in the current fiscal year shall be paid by the commonwealth from item number six hundred and twelve of chapter two hundred and forty-five of the acts of the current year, and in subsequent years one half shall be paid by the commonwealth from the annual appropriation for the maintenance and repair of state highways, and one half shall be paid by the cities of Revere and Lynn and the town of Saugus in equal amounts."

In accordance therewith a contract was awarded for the installation of lighting fixtures along the Boston and Salem Turnpike in the cities and town mentioned above. This provided for 400-watt lighting units to be erected 250 feet apart on alternate sides of the highway.

SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Authority for the construction of sidewalks along State highways was granted by Chapter 439, Acts of 1931, which amended section 20, Chapter 81, General Laws, as follows:

"Chapter eighty-one of the General Laws, as amended in section twenty by section twenty-nine of chapter three hundred and ninety-four of the acts of the current year, is hereby further amended by striking out said section twenty and inserting in place thereof the following: Section 20. The department shall from time to time construct sidewalks along such parts of the state highways as it determines public convenience and necessity require. Sidewalks may also be constructed along state highways and maintained in accordance with sections twenty-five and twenty-six of chapter eighty-three."

In accordance therewith the construction was started on sidewalks on the State highway in the towns of Somerset and Swansea.

TERCENTENARY SIGNS

Under the provisions of Chapter 10 of the Resolves of 1930, the Department was authorized to prepare and erect signs and suitable markers, including such as may be selected by the Massachusetts Bay Colony Tercentenary Commission,

with suitable inscriptions, indicating the ancient ways of the Puritan times and the structures or places relating to or associated with the early settlements within the Commonwealth. These signs and markers, after being erected, are required to be maintained by the Department from appropriations made for the maintenance of highways.

The locations of these signs and markers were selected jointly by the local authorities of the cities and towns and the Tercentenary Commission with due consideration as to visibility, proper height and position. A total of 273 tercentenary signs were erected. During the year 200 of these signs were refinished and replaced.

REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER 1930-31

As provided in section 30, chapter 85, General Laws, as amended, the Department on Jan. 27, 1931, adopted regulations, and gave public notice thereof, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. These regulations were in effect in the following counties during the periods stated:—

Barnstable County,	Feb. 16 to Apr. 1, 1931.
Berkshire County,	Feb. 16 to Apr. 18, 1931.
Bristol County,	Feb. 16 to Apr. 18, 1931.
Franklin County,	Feb. 16 to Apr. 18, 1931.
Hampden County,	Feb. 16 to Apr. 18, 1931.
Hampshire County,	Feb. 16 to Apr. 18, 1931.
Norfolk County,	Feb. 16 to Apr. 18, 1931.
Plymouth County,	Feb. 23 to Apr. 11, 1931.
Essex County,	Mar. 2 to Apr. 18, 1931.
Middlesex County,	Mar. 2 to Apr. 18, 1931.
Worcester County,	Mar. 2 to Apr. 18, 1931.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1930, inclusive.

The following Federal aid allotments have thus far been made to Massachusetts:

For fiscal year ending June 30, 1917	\$73,850 94
For fiscal year ending June 30, 1918	147,701 90
For fiscal year ending June 30, 1919	958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
For fiscal year ending June 30, 1926	1,099,891 00
For fiscal year ending June 30, 1927	1,089,055 00
For fiscal year ending June 30, 1928	1,089,100 00
For fiscal year ending June 30, 1929	1,088,808 00
For fiscal year ending June 30, 1930	1,090,077 00
For fiscal year ending June 30, 1931	1,821,569 00
For fiscal year ending June 30, 1932	1,813,916 00
For fiscal year ending June 30, 1933	1,511,244 00
Total	\$18,523,440 00

Federal "Emergency Advance Funds" allotment was made to Massachusetts in addition to the above amounting to \$1,141,460.00.

The total amount received by Massachusetts from 1916 to Nov. 30, 1931, is \$14,847,422.72.*

* Includes \$1,141,460.00 Federal Emergency Advance Funds.

Projects to the number of 36 have been prepared in addition to those shown in the report of the Department of Public Works for 1929. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1931, inclusive, is 887,275. The mileage in various counties is:—

Barnstable, 84.318 miles
 Berkshire, 115.342 miles
 Bristol, 78.560 miles
 Dukes, 3.117 miles
 Essex, 71.782 miles
 Franklin, 42.498 miles

Hampden, 50.502 miles
 Hampshire, 43.021 miles
 Middlesex, 79.401 miles
 Norfolk, 71.937 miles
 Plymouth, 96.579 miles
 Worcester, 150.218 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS* TO NOV. 30, 1930

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
R2	Hanover	2.615	39,225 00	39,225 00	Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cummington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	41,340 00	41,340 00	Work completed.
25	Billerica	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.
34	Dudley	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanes-				
	borough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
	Section C	4.590	68,850 00	68,850 00	Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
	Section D	3.022	56,801 10	23,765 54	Work completed.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.

* All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
47	Barre-Oakham	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A	1.959	39,180 00	39,180 00	Work completed.
	Section B	2.504	50,080 00	50,080 00	Work completed.
52	Oxford	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brook-				
	field:				
	Section A	0.890	17,800 00	17,800 00	Work completed.
	Section B	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A	0.829	16,580 00	16,580 00	Work completed.
	Section B	2.691	53,820 00	53,820 00	Work completed.
55	Quincy	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn	3.042	59,131 31	59,131 31	Work completed.
58	Littleton	1.345	26,900 00	26,900 00	Work completed.
59	Egremont	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A	3.009	60,180 00	60,180 00	Work completed.
	Section B	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich	4.489	89,780 00	89,780 00	Work completed.
64	Norwood	1.065	21,300 00	21,300 00	Work completed.
65	North Adams	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill	2.657	53,049 24	53,049 24	Work completed.
70	Palmer	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham	1.846	36,940 00	36,940 00	Work completed.
72	Walpole	3.078	61,560 00	61,560 00	Work completed.
73	Southwick	6.879	111,757 95	111,757 95	Work completed.
74	Becket	0.156	13,095 66	13,095 66	Work completed.
R74	Becket	0.189	10,290 54	10,290 54	Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac	1.020	20,397 73	20,397 73	Work completed.
78	Burlington	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington	0.028	8,522 99	8,522 99	Work completed.
80	Lee:				
	Section A	0.909	18,180 00	18,180 00	Work completed.
	Section B	0.283	4,245 00	4,245 00	Work completed.
83	Pembroke	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston	3.491	51,974 04	51,974 04	Work completed.
85	Dalton (Hinsdale Road):				
	Section A	1.033	20,660 00	20,660 00	Work completed.
	Section B	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A	1.056	21,120 00	21,120 00	Work completed.
	Section B	0.038	5,429 50	5,429 50	Work completed.
88	Erving	4.537	67,485 00	67,485 00	Work completed.
89	Easton:				
	Sections A and B	3.540	70,800 00	70,800 00	Work completed.
	Section C	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-E. Brookfield	1.227	25,324 95	25,324 95	Work completed.
91	Lowell	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield	7.565	122,931 25	122,931 25	Work completed.
95	Westfield	0.148	12,677 08	12,677 08	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,810 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	No. Attleborough-Attleboro	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsborough	4.625	89,713 81	89,713 81	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	E. Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee.	8.137	114,307 02	114,307 02	Work completed.
122D	Barnstable	5.643	44,860 06	34,744 16	Work underway.
122E	Barnstable	1.621	26,313 81		Work underway.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	\$24,390 00	\$24,390 00	Work completed.
124C	Weston	1.004	15,060 00	14,742 80	Work underway.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	74,258 69	74,258 69	Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
133C	North Andover	2.670	35,085 00		Work underway.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00	24,255 00	Work completed.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	53,059 55	53,059 55	Work completed.
135D	Russell-Huntington	3.670	55,050 00	55,050 00	Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
137C	Sheffield	1.532	22,980 00	7,189 98	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	92,391 53	92,391 53	Work completed.
138C	Becket	2.742	76,054 36	48,867 91	Work underway.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	68,916 18	68,916 18	Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
142C	Gardner-Templeton	4.174	62,610 00	62,610 00	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00	35,235 00	Work completed.
148A	Raynham	1.657	24,855 00	24,855 00	Work completed.
148 B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough	5.586	83,790 00	83,790 00	Work completed.
149B	Middleborough	0.831	12,465 00	12,465 00	Work completed.
150A	Littleton-Westford	1.985	29,775 00	29,775 00	Work completed.
150B	Westford	2.660	39,900 00	39,900 00	Work completed.
151A	B & Swansea-Somerset	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth	2.858	42,870 00	42,870 00	Work completed.
152C	Westport	4.634	69,510 00	69,510 00	Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield	0.549	8,235 00	8,235 00	Work completed.
156A	Orange	1.058	15,870 00	15,870 00	Work completed.
156B	Orange	2.607	39,105 00	39,105 00	Work completed.
156C	Athol-Orange	1.544	28,415 77	6,218 41	Work underway.
157A	Sandisfield-Tolland	0.644	34,803 50	34,803 50	Work completed.
R157A	Sandisfield-Tolland	0.644	5,107 62	5,107 62	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
157B	Sandisfield	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland	3.038	45,570 00	45,570 00	Work completed.
157D	Sandisfield	0.219	13,641 74	13,641 74	Work completed.
158A	Dalton	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater	3.823	57,345 00	57,345 00	Work completed.
161B	Avon-Brockton	2.201	33,015 00	23,604 74	Work completed.
162A	Holliston	3.315	49,725 00	49,725 00	Work completed.
162B	Milford	1.790	26,850 00	26,850 00	Work completed.
163A	Amherst	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon	0.750	42,931 27	42,931 27	Work completed.
164B	Westminster-Ashturnham	3.607	54,105 00	54,105 00	Work completed.
164C	Ashturnham	3.776	56,640 00	56,640 00	Work completed.
164D	Winchendon	2.826	42,390 00	42,390 00	Work completed.
165A	Winchendon	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro	1.742	26,130 00	26,130 00	Work completed.
174A	Marshfield	4.533	67,955 00	67,955 00	Work completed.
175A	Sandwich	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable	0.927	13,905 00	13,905 00	Work completed.
175D	Sandwich	2.364	35,460 00	35,460 00	Work completed.
175E	Brewster-Orleans	7.858	106,314 45	106,314 45	Work completed.
176A	Plymouth	5.032	70,543 35	70,543 35	Work completed.
176B	Plymouth-Bourne	2.948	44,220 00	24,990 90	Work completed.
177A	Chatham	3.964	48,588 18	48,588 18	Work completed.
177B	Orleans	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis	3.219	38,734 30	38,734 30	Work completed.
178A	Chelmsford	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams	2.818	42,270 00	42,270 00	Work completed.
181B	Florida	2.736	41,040 00	41,040 00	Work completed.
181C	North Adams-Clarksburg	3.362	50,430 00	50,430 00	Work completed.
181D	Florida-Savoy	3.702	55,530 00	55,530 00	Work completed.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32	45,345 32	Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00	84,345 00	Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	35,640 00	35,640 00	Work completed.
185C	Charlemont	0.421	54,688 84	14,907 70	Work completed.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
187B	Hopedale-Mendon-Bellingham	2.502	34,650 00		Work underway.
188A	Townsend	3.813	57,195 00	57,195 00	Work completed.
188B	Pepperell-Groton	3.368	50,520 00	50,520 00	Work completed.
188C	Groton-Pepperell	1.627	54,509 15	9,516 49	Work underway.
188D	Townsend	0.061	17,849 72		Work underway.
188E	Townsend	0.009	2,400 58		Work underway.
189A	Marion-Wareham	0.582	78,792 57	78,792 57	Work completed.
189B	Mattapoisett	1.804	27,060 00	27,060 00	Work completed.
189C	Marion	4.554	68,310 00	68,310 00	Work completed.
189D	Wareham	1.344	20,160 00	13,966 14	Work underway.
190A	Becket	2.254	33,810 00	33,810 00	Work completed.
190B	Hinadale	0.307	45,608 50		Work underway.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00	26,280 00	Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	26,852 35	26,852 35	Work completed.
194A	Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00	Work completed.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00	39,255 00	Work completed.
195C	Foxborough-Wrentham	0.927	23,175 00		Work underway.
196A	Millbury-Grafton	4.440	66,600 00	66,600 00	Work completed.
197	Plymouth	6.543	96,288 19	96,288 19	Work completed.
198A	Milford-Hopedale-Upton	4.418	66,270 00	66,270 00	Work completed.
199A	Newbury	0.303	163,208 90	121,066 85	Work completed.
199B	Newbury-Rowley	4.437	122,566 46	62,185 37	Work underway.
200A	Rehoboth	1.875	28,125 00	28,125 00	Work completed.
200B	Taunton-Dighton-Rehoboth	5.690	86,868 07	86,868 07	Work completed.
201	Wilbraham	1.530	22,950 00	22,950 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
202A	Hanover-Pembroke.	2.061	44,462 11	44,462 11	Work completed.
202B	Duxbury-Kingston-Pembroke .	6.164	92,460 00		Work underway.
203	Natick-Wellesley	2.066	30,990 00	30,990 00	Work completed.
204	Erving	3.214	48,210 00	48,210 00	Work completed.
205	Dalton	0.913	22,152 43	22,152 43	Work completed.
206A	Billerica	1.898	35,399 86	35,399 86	Work completed.
206B	Billerica	0.978	14,670 00		Work underway.
207A	Bridgewater-Middleborough .	10.474	179,296 63		Work completed.
208A	Weston	0.186	42,652 01	19,385 85	Work completed.
208B	Weston	1.224	18,360 00	16,655 12	Work underway.
209A	Milton-Quincy-Randolph . . .	3.315	49,725 00		Work completed.
210A	Becket-Lee	7.192	107,880 00	87,320 68	Work underway.
210B	Becket	2.886	43,290 00	29,534 36	Work underway.
211A	Northborough-Shrewsbury-South- borough	11.272	444,715 17	241,627 87	Work underway.
211B	Framingham-Southborough . .	4.398	82,947 44		Work underway.
211C	Framingham-Natick	4.061	101,525 00		Work underway.
212	North Attleborough	2.123	46,890 51	39,408 28	Work completed.
213	Attleboro	1.455	71,421 53	52,496 12	Work completed.
214A	Tyngsborough	0.540	236,907 35	120,091 29	Work underway.
215A	Palmer-Monson	0.606	98,900 75	22,365 10	Work underway.
216A	Dedham	0.738	10,935 00		Work completed.
217	Chester-Huntington	3.781	62,276 87	42,535 19	Work underway.
218	Canton-Dedham-Westwood . .	3.947	202,012 06		Work underway.
219A	Marlborough-Northborough . .	5.109	87,411 93	82,268 29	Work underway.
220A	Foxborough-Plainville-Wrentham	5.722	85,830 00	67,133 86	Work underway.
221	Egremont	2.135	53,375 00		Work underway.
222	Deerfield-Greenfield	0.337	168,855 58	19,823 50	Work underway.
223A	Williamstown	1.789	44,725 00		PS&E Appr.
224A	Andover-North-Reading-Reading	4.431	125,109 01	56,711 93	Work underway.
225A	Erving	1.425	89,590 80	23,837 41	Work underway.
225B	Gill-Greenfield	5.147	162,429 00		Work underway.
225C	Erving-Gill	0.017	236,449 23		Work underway.
226A	Auburn-Worcester	4.809	143,134 13		Work underway.
226B	Millbury-Worcester	2.125	210,350 35		Work underway.
226C	Shrewsbury-Worcester	3.015	89,151 11		Work underway.
227	Foxborough-Sharon-Wrentham .	4.314	178,951 92		Work underway.
228A	Uxbridge	4.171	128,280 31		Work underway.
229A	Dedham-Westwood-Needham . .	3.448	100,412 55		Work underway.
229B	Needham-Wellesley	3.653	110,698 82		Bids received.
230A	Salisbury	2.184	43,990 79		Work underway.
231A	Sharon-Walpole-Norwood . . .	5.458	143,527 10		Work underway.
233A	Lakeville-Middleborough . . .	4.119	128,554 30		PS&E Appr.
Total		887.275	\$17,547,315 38	\$13,705,962 72	

STATEMENT OF FEDERAL EMERGENCY ADVANCE FUNDS

No.	TOWN OR CITY	Amount of Fed- eral Aid involved	Amount received
122D	Barnstable	\$116,571 15	\$116,571 15
124C	Weston	132,685 22	132,685 22
188C	Groton-Pepperell	9,516 49	9,516 49
199B	Newbury-Rowley	62,185 37	62,185 37
208B	Weston	78,216 94	78,216 94
219A	Marlborough-Northborough . .	329,743 37	329,743 37
220A	Foxborough-Plainville-Wrentham	286,202 25	286,202 25
224A	Andover-North Reading-Reading	90,544 85	90,544 85
225A	Erving	35,794 36	35,794 36
Total		\$1,141,460 00	\$1,141,460 00

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure

Andover — Bypass over Main Street; two 33-foot spans, steel beam with reinforced concrete slab.

Auburn — Southwest Connection over tracks of the New York, New Haven and Hartford Railroad; two 45-foot spans and one 54-foot span, steel beam with reinforced concrete floor.

- Auburn — Southwest Connection over Reservoir; one 13-foot span, reinforced concrete slab.
- Bernardston — Northfield Road over tracks of the Boston and Maine Railroad; three 40-foot spans, reinforced concrete beam and slab.
- Blandford — Blotz Bridge, Otis Road over Tiffany Brook; one 21-foot span, reinforced concrete beam and slab.
- Boston — Canterbury Street under Morton Street; one 88-foot span, three-hinged steel arch with reinforced concrete floor.
- Boston — Canterbury Street over Stony Brook; one 14-foot span, reinforced concrete box culvert.
- Boston — West Roxbury Parkway under tracks of New York, New Haven and Hartford Railroad; two 45-foot spans, through plate girder.
- Bourne — over Back River; 56-foot span, steel beam with reinforced concrete floor.
- Canton — Green Lodge Street at Dedham and Westwood lines, over Neponset River; 56-foot span, reinforced concrete arch.
- Cheshire — Prout Bridge over Scrabble Brook; one 26-foot span, reinforced concrete beam and slab.
- Chester — Jacob's Ladder over Gold Mine Brook; 26-foot span, reinforced concrete beam and slab.
- Chesterfield — Munson Bridge, Williamsburg Road over The Branch; two 41-foot spans, steel beam and reinforced concrete floor.
- Colrain — Jacksonville Road over North River; one 75-foot span, steel truss.
- Dedham — Greendale Avenue at Needham line over Charles River; 55-foot span, stone arch.
- Dedham — West Street over Circumferential Highway; one 62-foot span, reinforced concrete rigid frame.
- Deerfield — Cheapside Bridge at Greenfield line over Deerfield River; three 133-foot spans, steel deck truss and two 50-foot spans, steel beam; total length 538 feet.
- Erving — Greenfield Road over tracks of Central Vermont Railroad; one 35-foot span, one 47-foot span and one 50-foot span, steel beam encased in concrete, and reinforced concrete floor.
- Erving — At Gill line over Connecticut River; one 460-foot span and two 161-foot spans, steel deck, spandrel braced arch with supported cantilever ends.
- Erving — Greenfield Road over Moore Street; one 57-foot span, steel beam, with reinforced concrete floor.
- Foxborough — Washington Street over Main Street; one 52-foot span, steel beam with reinforced concrete floor.
- Foxborough — Providence Turnpike over tracks of New York, New Haven and Hartford Railroad; three 41-foot spans, reinforced concrete beam and slab.
- Foxborough — Providence Turnpike over Neponset River; one 14-foot span, reinforced concrete box culvert.
- Framingham — Worcester Turnpike over Reservoir; one 50-foot span, steel beam and reinforced concrete floor.
- Framingham — Worcester Turnpike over Sudbury River; one 70-foot span, steel girder with reinforced concrete floor.
- Framingham — Marlborough Connection over Worcester Turnpike and tracks of New York, New Haven and Hartford Railroad; two 90-foot spans, steel plate girder with reinforced concrete floor.
- Framingham — Under Concord Street; two 50-foot spans, reinforced concrete beam and slab.
- Gill — At Greenfield line over Falls River; two 63-foot spans and one 74-foot span, deck plate girders with reinforced concrete floor.
- Great Barrington — Upper Main Street over Housatonic River; one 115-foot span, steel pony truss and reinforced concrete floor.
- Groton — Paper Mill Village at Pepperell line over Nashua River; eight 20-foot spans, reinforced concrete beam and slab on concrete pile trestle.
- Hingham — At Hull line over Weir River; three 61-foot spans, deck plate girder with reinforced concrete floor.
- Hinsdale — Washington Road over tracks of Boston and Albany Railroad; one 74-foot span, plate girder with reinforced concrete floor.

- Ipswich — Rowley Road over tracks of Boston and Maine Railroad.
- Lakeville — Bedford Street over tracks of New York, New Haven and Hartford Railroad; three 35-foot spans, steel beam and reinforced concrete floor.
- Lynnfield — Main Street at Wakefield line over Saugus River; one 12-foot span, reinforced concrete slab.
- Millbury — Southwest Connection, one 102-foot span over tracks of New York, New Haven and Hartford Railroad; and one 80-foot span over Canal of Worcester Sewage Disposal Plant; through plate girders with reinforced concrete floor.
- Millbury — Southwest Connection over Blackstone River; two 63-foot spans and one 74-foot span, plate girders and reinforced concrete floor.
- Millbury — Southwest Connection over Millbury Street; one 114-foot span, plate girder and reinforced concrete floor.
- Millis — Baltimore Street over Charles River; one 42-foot span, reinforced concrete beam and slab.
- Natick — Worcester Turnpike over Brook; one 12-foot span, reinforced concrete culvert.
- Natick — North Main Street over Worcester Turnpike; two 45-foot spans, steel beam and reinforced concrete floor.
- Natick — Worcester Turnpike over Lake Cochituate; three 23-foot spans, reinforced concrete pile and slab.
- North Andover — State Highway over Cochichewick River; one 14-foot span, reinforced concrete slab.
- Northborough — Boston Post Road over Wachusett Aqueduct; one 46-foot span, reinforced concrete beam and slab.
- Northborough — Southwest Connection over Hop Brook; one 14-foot span, reinforced concrete culvert.
- Norwood — Providence Turnpike over Neponset River; one 24-foot span, reinforced concrete beam and slab.
- Revere — Revere Beach Parkway over Broadway; one 72-foot span, three-hinged steel arch and reinforced concrete floor.
- Salem — Road from Loring Avenue over Forest River; one 11-foot span, reinforced concrete box culvert.
- Seekonk — Luther's Corner over Runnins River; one 12-foot span, reinforced concrete culvert.
- Shrewsbury — Southwest Connection over Lake Quinsigamond; one 15-foot span, reinforced concrete box culvert.
- Shrewsbury — Southwest Connection over Flints Pond; three 23-foot spans, reinforced concrete beam and slab on concrete pile trestle.
- South Hadley — Hockanum Road over Sandy Brook; three 23-foot spans, reinforced concrete pile trestle.
- Topsfield — Salem Road over Ipswich River; two 24-foot spans, reinforced concrete beam and slab.
- Uxbridge — Millville Road over Blackstone River; two 38-foot spans and one 45-foot span, reinforced concrete beam and slab.
- Uxbridge — Ironstone Road under tracks of New York, New Haven and Hartford Railroad; one 61-foot span, plate girder and reinforced concrete floor.
- Uxbridge — Ironstone Road over Emerson Brook; one 14-foot span, reinforced concrete box culvert.
- Uxbridge — Ironstone Road over Ironstone Reservoir Outlet; one 23-foot span, reinforced concrete beam and slab.
- West Stockbridge — Great Barrington Road over Williams River; one 45-foot span, reinforced concrete beam and slab.
- Westwood — Circumferential Highway over tracks of the New York, New Haven and Hartford Railroad; one 61-foot span and two 34-foot spans, steel beam and reinforced concrete floor.
- Westwood — Circumferential Highway over tracks of the New York, New Haven and Hartford Railroad; three 41-foot spans, steel beam encased in concrete and reinforced concrete floor.
- Williamsburg — Chesterfield Road over Meekins Brook; one 28-foot span, reinforced concrete beam and slab.

- Williamsburg — Chesterfield Road over West Branch of Mill River; one 35-foot span, reinforced concrete beam and slab.
 Worcester — Southwest Connection under tracks of Boston and Albany Railroad; two 48-foot spans, deck plate girder.
 Worcester — Southwest Connection under Grafton Street; two 42-foot spans, steel beam and reinforced concrete floor.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR
 CONTRACTED FOR

- Ashby — Main Street over Willard Brook; one 39-foot span, reinforced concrete arch extension.
 Ashby — Townsend Road over Trap Falls Brook; one 13-foot span, stone arch extension.
 Becket — Jacob's Ladder over Walker Brook; one 43-foot span, reinforced concrete beam extension.
 Becket — Jacob's Ladder over Walker Brook; one 42-foot span, reinforced concrete beam extension.
 Becket — Jacob's Ladder over Walker Brook; one 45-foot span, reinforced concrete beam extension.
 Becket — Jacob's Ladder over Walker Brook; one 13-foot span, reinforced concrete slab extension.
 Becket — Jacob's Ladder over Sparks Brook; one 15-foot span, reinforced concrete slab extension.
 Becket — Jacob's Ladder over Branch of Walker Brook; one 18-foot span, reinforced concrete beam extension.
 Becket — Jacob's Ladder over Walker Brook; one 22-foot span, reinforced concrete beam extension.
 Fairhaven — At New Bedford line over Acushnet River; repairs to floor system.
 Millis — Orchard Street over Boggastowe Brook; reinforced concrete slab extension of stone arch 11-foot span.
 North Reading — At Reading line over Ipswich River; two 15-foot spans and one 29-foot span, reinforced concrete beam and pile extension.
 North Reading — State highway over Martins Brook; one 25-foot span, reinforced concrete arch extension.
 Northborough — Boston Post Road over Assabet River; one 39-foot span, reinforced concrete beam extension.
 Palmer — Monson Road over Quabaug River; one 50-foot span and two 20-foot spans, reinforced concrete arch extension of stone arch.
 Pepperell — South Street over Mill Pond outlet; two 12-foot spans, reinforced concrete culvert.
 Rowley — Beans Crossing over tracks of Boston and Maine Railroad; one 40-foot span and two 37-foot spans, steel beam extension to reinforced concrete arch.
 Salem — Loring Avenue over Forest River; one 10-foot span, reinforced concrete culvert extension.
 Stockbridge — Bowl Road over Marsh Brook; one 17-foot span, concrete arch extension.
 Sturbridge — Southbridge Road over Hobbs Brook; one 10-foot span, reinforced concrete slab extension to stone arch.
 Townsend — Ashby Road over Willard Brook; one 23-foot span and one 25-foot span, stone arch extension.
 Townsend — Ashby Road over Willard Brook; one 16-foot span and one 18-foot span, stone arch extension.
 Townsend — Ashby Road over Willard Brook; two 40-foot spans, stone arch extension.
 Townsend — Ashby Road over Pearl Hill Brook; one 20-foot span, reinforced concrete beam extension.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure.

- Arlington — Pleasant Street grade separation.
 Attleboro — Washington Street over tracks of New York, New Haven and Hartford Railroad.

- Ayer — West Main Street over tracks of Boston and Maine Railroad.
- Bellingham — Wrentham Street over Peters River.
- Boston — Viaduct over tracks of Midland Division of New York, New Haven and Hartford Railroad, Neponset River, and River Street connecting Neponset River Parkway with the proposed extension of Canterbury Street; grade separation over Neponset River Parkway; grade separations on proposed Clarendon Hills Parkway at Hyde Park Avenue, over the tracks of the New York, New Haven and Hartford Railroad, and Poplar Street.
- Brookline — Grade separations at Cypress Street and at Brookline Village.
- Cambridge — Grade separation at Alewife Brook Parkway.
- Dedham — Providence Turnpike over Williams Street; over High Street; and grade separation at Circumferential highway.
- Lexington — Grade separation of proposed highway and Waltham Street.
- Lincoln — South Great Road over tracks of Fitchburg Division, Boston and Maine Railroad.
- Littleton — State highway over tracks of Fitchburg Division, Boston and Maine Railroad.
- Manchester — Bypass and drawbridge over Manchester Harbor.
- Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad.
- Newton — Worcester Turnpike over Charles River at Wellesley line; over Quinobequin Road; over Chestnut Street; concrete saddle over Aqueduct; over Centre Street; over Parker Street; and over the proposed parkway.
- Pittsfield — Woodleigh Avenue over Smith Brook.
- Pittsfield — Lebanon Avenue over West Branch Housatonic River.
- Pittsfield — State highway over Phelps Brook.
- Revere — At Point of Pines over Boston, Revere Beach and Lynn Railroad, Highway, and private property. Highway underpass under parkway.
- Revere — Beach Street and Hitchborn Road over tracks of Boston and Maine Railroad and proposed highway.
- Revere — Over Parkway near Revere Station and under Parkway near Eliot Circle.
- Waltham — Beaver Brook Station, Main Street over tracks of Boston and Maine Railroad.
- Wellesley — Worcester Turnpike over Aqueduct, over Weston Road, over Cliff Road, over Boston and Albany Railroad, over Aqueduct at Wellesley Hills Village, and under Cedar Street.
- Westfield — Frog Hole bridge over Powder Mill Brook.
- Westfield — Main Street over Westfield River.
- Westwood — Providence Turnpike under tracks of New York, New Haven and Hartford Railroad; grade separation of proposed Providence Turnpike and connection to Neponset River Parkway.
- Weymouth — Main Street over tracks of New York, New Haven and Hartford Railroad.
- Winchester — Grade separation of highway and tracks of Boston and Maine Railroad.
- Worthington — Huntington Road over Little River; over Mill Pond and over a brook.
- Yarmouth — West Yarmouth Road over Parkers River.

Examinations, Reports, Estimates, etc., at Request of Cities and Towns

Towns, Locality and Character of Work

- Great Barrington — Cottage Street bridge; examination for condition to withstand traffic as a detour during construction of State bridge.
- Holland — Sturbridge Road over Quinebaug River; one 15-foot span, reinforced concrete slab.

Examinations, Reports, Estimates, etc., by direction of the Department

Cities and Towns, Locality and Subject

- Billerica — At Wilmington line over Shawsheen River; examination for condition of bridge.

- Cummington — Town Road over Westfield River; examination for strength of bridge.
- Boston — D Street Garage of Department; design for strengthening roof beams.
- North Reading — State highway over tracks of Boston and Maine Railroad; report on strength of bridge.
- Norton — Easton Road over Rumford River; examination and estimate for repairs to bridge.

Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923

- Ashburnham — Westminster Street over Branch of Nashua River; one 11-foot span, reinforced concrete slab.
- Barre — Old Barre Falls bridge over Ware River; one 42-foot span, plate girder.
- Brockton — Oak Street bridge over Salisbury Brook; one 16-foot span, reinforced concrete slab.
- Chicopee — Chicopee Center bridge over Chicopee River and Canal; three 94-foot spans, reinforced concrete arch over river, and one 40-foot span, reinforced concrete beam over Canal.
- Conway — Bear River bridge; one 30-foot span, reinforced concrete arch.
- Haverhill — Thompson Road bridge over East Meadow Brook; one 14-foot span, reinforced concrete slab.
- Lee — Silver Street over outlet to Greenwater Pond; one 25-foot span, steel beam with reinforced concrete floor.
- Montague — Footbridge at Turner's Falls, one 135-foot span, steel truss with plank floor.
- Springfield — Parker Street; one 15-foot span, extension to North Branch culvert.
- Sutton — At Manchaug over Mill Canal; one 14-foot span, reinforced concrete slab.
- Worcester — Mill Street over Tatnuck Brook; one 34-foot span, steel beam.

Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature

- Chapter 450, Acts of 1931, Section 8. This section of the Act directs the department of public works "to make surveys and prepare plans and estimates of cost of a grade separation by means of an overpass at the intersection of the Riverway and Huntington Avenue in the City of Boston." Preliminary plans and estimates have been completed.
- Chapter 32, Resolves 1931. "Resolve providing for an investigation by the department of public works relative to the advisability of constructing certain highways for the purpose of relieving traffic." The resolve directs consideration to the following 1931 documents: House 16, 131, 204, 480, 483, 683, 954, and Senate 511. The investigation has been completed and the report has been filed with the clerk of the house of representatives.
- Chapter 38, Resolves of 1931. "Resolve providing for an investigation by the department of public works relative to the construction and improvement of certain highways within and near the Metropolitan parks district." The investigation has been completed and a report has been filed with the clerk of the senate.
- Chapter 51, Resolves of 1931. "Resolve providing for the making and preparation by the department of public works of surveys, estimates, plans and specifications for the construction of a new bridge over the Saugus River between the Point of Pines in the city of Revere and the city of Lynn." The plans and specifications have been prepared.
- Chapter 54, Resolves of 1931. "Resolve providing for a study by the department of public works relative to the construction of a bridge over the Weymouth Fore River." A report has been filed with the clerk of the senate.
- Chapter 56, Resolves of 1931. "Resolve providing for an investigation by the department of public works relative to the reconstruction of Fox Hill Bridge over the Saugus River." The report has been filed with the clerk of the house of representatives.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1931, was 415. In 1930 the number of such openings was 335; in 1929 the number was 383; in 1928 the number was 365.

The total expenditure during the year was \$7,773.97.

The total expenditure from 1912 to Nov. 30, 1931, inclusive, was \$155,861.33.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1931, was 1,700. In 1930 the number of such openings was 1,812; in 1929 the number was 1,789; in 1928 the number was 1,982.

The total expenditure during the year was \$13,444.24.

The total expenditure from 1912 to Nov. 30, 1931, inclusive, was \$341,424.98.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1930, was 1,069; the number of such openings during the year ending Nov. 30, 1931, was 2,564.

The total expenditure during the year was \$22,762.93.

The total expenditure while in charge of the Department has been \$32,828.49.

CONSTRUCTION OF TOWNS AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921, by chapter 288, Acts of 1925, and by Chapter 316, Acts of 1928.)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns, cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Barnstable County</i>					
Barnstable	\$10,000 00	\$10,000 00	\$10,000 00	Bituminous concrete	6,150
Bourne	12,000 00	12,000 00	12,000 00	Bridge and approaches	—
Harwich	12,000 00	12,000 00	6,000 00	Bituminous concrete	7,135
<i>Berkshire County</i>					
Alford	3,383 22	1,127 73	2,255 48	Stone retread	7,713
Alford	2,000 00	1,000 00	1,000 00	Gravel	1,900
Becket	1,000 00	500 00	500 00	Gravel	650
Becket	1,000 00	500 00	500 00	Gravel	1,000
Becket	2,000 00	1,000 00	1,000 00	Gravel	1,000
Cheshire	700 00	400 00	400 00	Gravel	1,600
Cheshire	10,000 00	5,500 00	3,000 00	Bituminous macadam	2,633
Cheshire	1,000 00	—	2,500 00	Bridge and approaches	—
Clarksburg	1,000 00	500 00	500 00	Gravel	1,050
Egremont	3,700 00	1,850 00	1,850 00	Stone retread	6,750
Florida	4,000 00	4,000 00	—	Gravel	800
Great Barrington	15,000 00	15,000 00	—	Bituminous macadam	5,600

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Berkshire County — Continued</i>					
Great Barrington . . .	32,500 00	32,500 00	—	Bridge and approaches	—
Hancock . . .	1,000 00	500 00	1,000 00	Gravel . . .	750
Hancock . . .	1,200 00	300 00	—	Oiling . . .	30,624
Hancock . . .	350 00	200 00	—	Oiling . . .	9,400
Hancock . . .	25,000 00	1,000 00	4,000 00	Bituminous macadam	4,900
Lanesborough . . .	900 00	450 00	450 00	Stone retread	2,500
Lanesborough . . .	4,000 00	2,000 00	2,000 00	Stone retread	2,070
Lenox . . .	5,000 00	5,000 00	—	Drainage . . .	—
Monterey . . .	64,100 00	14,550 00	19,550 00	Bituminous macadam	18,715
Monterey . . .	900 00	450 00	450 00	Stone retread	6,000
Mount Washington . . .	1,500 00	500 00	1,000 00	Gravel . . .	550
New Marlborough . . .	2,000 00	1,500 00	1,000 00	Stone retread	5,600
New Marlborough . . .	4,500 00	2,000 00	2,000 00	Stone retread	10,400
New Marlborough . . .	1,500 00	1,500 00	1,000 00	Stone retread	5,011
New Marlborough . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	900
Otis . . .	2,000 00	500 00	2,000 00	Gravel . . .	1,225
Richmond . . .	2,500 00	1,000 00	1,500 00	Gravel . . .	1,350
Sandisfield . . .	4,000 00	2,000 00	2,000 00	Stone retread	9,800
Savoy . . .	24,000 00	—	8,000 00	Gravel and tar . . .	5,400
Sheffield . . .	3,000 00	1,500 00	1,500 00	Gravel and stone retread	7,250
Stockbridge . . .	30,000 00	30,000 00	—	Bituminous macadam	7,895
Tyringham . . .	4,000 00	2,000 00	2,000 00	Stone retread	2,300
Washington . . .	4,000 00	2,000 00	2,000 00	Gravel . . .	2,200
West Stockbridge . . .	10,000 00	5,000 00	5,000 00	Bridge and approaches	—
West Stockbridge . . .	7,000 00	3,000 00	4,000 00	Stone retread	3,440
Williamstown . . .	2,000 00	4,000 00	—	Gravel . . .	1,950
Windsor . . .	1,000 00	500 00	500 00	Gravel and hardpan . . .	650
Windsor . . .	1,000 00	500 00	500 00	Gravel . . .	300
<i>Bristol County</i>					
Attleboro . . .	15,000 00	18,000 00	15,000 00	Bituminous macadam	4,975
Berkley . . .	2,000 00	2,000 00	—	Repairs and oiling	47,300
Dighton . . .	4,000 00	6,000 00	—	Bituminous macadam	4,225
Dighton . . .	10,000 00	10,000 00	—	Bituminous macadam	3,000
Easton . . .	15,000 00	15,000 00	10,000 00	Bituminous macadam	7,720
Freetown . . .	4,000 00	1,400 00	4,000 00	Gravel . . .	2,782
Freetown . . .	1,000 00	1,000 00	—	Repairs and oiling	65,500
Mansfield . . .	8,000 00	10,000 00	8,000 00	Bituminous macadam	2,215
Norton . . .	3,000 00	1,000 00	2,000 00	Gravel . . .	1,650
Seekonk . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	1,750
Swansea . . .	4,000 00	4,000 00	—	Gravel . . .	2,400
Westport . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam	1,500
<i>Essex County</i>					
Andover . . .	4,500 00	4,500 00	4,500 00	Bituminous macadam	1,762
Boxford . . .	2,500 00	2,500 00	2,500 00	Gravel . . .	3,000
Boxford . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	1,300
Boxford . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	1,400
Boxford . . .	12,000 00	6,000 00	6,000 00	Gravel . . .	5,300
Danvers . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam	340
Danvers . . .	2,300 00	2,300 00	2,300 00	Bituminous macadam	500
Georgetown . . .	28,000 00	5,000 00	17,000 00	Bituminous macadam	8,500
Groveland . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	2,800
Hamilton . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam	7,400
Ipswich . . .	4,000 00	4,000 00	4,000 00	Gravel . . .	3,850
Lynnfield . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam	5,200
Marblehead . . .	12,000 00	24,000 00	12,000 00	Bridge and approach . . .	—
Methuen . . .	9,500 00	10,500 00	9,500 00	Bituminous macadam	7,170
Methuen . . .	8,500 00	9,500 00	8,500 00	Bituminous macadam	5,200
Newbury . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,940
Newburyport . . .	5,000 00	5,000 00	5,000 00	Gravel and bituminous material mixed in place	5,382
Rockport . . .	5,000 00	5,000 00	—	Bituminous material and gravel mixed in place	2,880
Rowley . . .	17,000 00	3,000 00	10,000 00	Bituminous macadam	825
Rowley . . .	500 00	500 00	—	Bituminous macadam	3,567
Salisbury . . .	5,000 00	5,000 00	5,000 00	Oiling . . .	11,000
Salisbury . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	4,581
Saugus . . .	15,000 00	15,000 00	15,000 00	Bituminous material and gravel mixed in place	2,650
Topsfield . . .	39,000 00	7,000 00	24,000 00	Bituminous macadam	7,325
Topsfield . . .	3,000 00	6,500 00	—	Bituminous macadam	8,772
Wenham . . .	23,000 00	4,000 00	13,000 00	Bridge and approaches	—
West Newbury . . .	5,500 00	5,500 00	5,500 00	Bituminous macadam	5,900
				Gravel . . .	5,295
<i>Franklin County</i>					
Ashfield . . .	4,245 00	600 00	—	Repairs and oiling	31,680
Ashfield . . .	1,500 00	1,500 00	—	Gravel . . .	1,000
Ashfield . . .	1,500 00	1,500 00	—	Gravel . . .	1,100
Ashfield . . .	5,000 00	1,500 00	1,000 00	Gravel . . .	3,800
Buckland . . .	7,000 00	5,000 00	1,000 00	Bituminous macadam	3,000
Buckland . . .	1,500 00	1,000 00	—	Bituminous macadam	492
Charlmont . . .	2,000 00	1,000 00	1,000 00	Bridge and approaches	—
Colrain . . .	6,000 00	3,500 00	2,500 00	Bridge and approaches	—
Colrain . . .	2,000 00	1,000 00	1,000 00	Gravel . . .	1,400
Conway . . .	3,000 00	2,000 00	1,000 00	Gravel . . .	2,200
Deerfield . . .	4,000 00	3,000 00	1,000 00	Bituminous macadam	1,850
Gill . . .	2,965 00	670 00	—	Repairs and oiling	35,376

COUNTIES AND TOWNS

COUNTIES AND TOWNS	State	Town	County	Type of Road	Length contracted for (Feet)
Franklin County — Continued					
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,637
Greenfield	7,500 00	6,000 00	1,000 00	Bituminous macadam	1,200
Greenfield	6,000 00	6,000 00	1,000 00	Bituminous macadam	3,700
Hawley	1,400 00	700 00	700 00	Gravel	925
Hawley	1,400 00	700 00	700 00	Gravel	3,000
Heath	2,000 00	1,000 00	1,000 00	Gravel	1,800
Leverett	1,000 00	500 00	500 00	Gravel	1,500
Leyden	2,000 00	1,000 00	1,000 00	Gravel	1,400
Monroe	2,000 00	1,000 00	1,000 00	Gravel	2,000
New Salem	2,000 00	1,000 00	1,000 00	Repairs and oiling	18,480
New Salem	500 00	500 00	—	Repairs and oiling	4,224
New Salem	1,500 00	500 00	—	Repairs and oiling	17,600
Northfield	1,925 00	75 00	—	Gravel retread	1,848
Northfield	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,700
Orange	1,000 00	1,000 00	500 00	Gravel	1,400
Orange	1,000 00	1,000 00	500 00	Repairs and oiling	5,000
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,512
Shelburne	8,500 00	7,500 00	1,000 00	Bituminous macadam	3,400
Shutesbury	2,000 00	1,000 00	1,000 00	Gravel	2,000
Sunderland	14,000 00	3,500 00	2,000 00	Bituminous macadam	4,816
Warwick	24,150 00	300 00	—	Repairs and oiling	44,880
Warwick	1,000 00	1,000 00	—	Bridge and approaches	—
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,400
Wendell	1,250 00	1,250 00	—	Repairs and oiling	15,840
Wendell	3,000 00	2,000 00	1,000 00	Gravel	1,800
Whately	2,000 00	1,000 00	1,000 00	Gravel	1,700
Hampden County					
Agawam	15,000 00	15,000 00	15,000 00	Bituminous macadam	9,800
Blandford	20,500 00	4,500 00	20,500 00	Bridge and approaches	—
Blandford	2,000 00	1,000 00	2,000 00	Grading	2,850
Brimfield	4,000 00	2,000 00	4,000 00	Gravel and tar mixed	3,650
Brimfield	300 00	200 00	300 00	Repairs and oiling	6,336
Brimfield	250 00	250 00	250 00	Repairs and oiling	11,088
Chester	5,000 00	1,000 00	5,000 00	Gravel	2,300
Chester	5,000 00	1,000 00	5,000 00	Stone retread	2,800
Chester	2,500 00	—	2,500 00	Stone retread	4,000
Chester	3,000 00	1,000 00	3,000 00	Stone retread	6,800
Chester	1,000 00	—	1,000 00	Gravel	1,200
Chicopee	73,000 00	—	57,000 00	Bituminous macadam	17,531
East Longmeadow	3,000 00	3,000 00	3,000 00	Gravel	6,800
Granville	14,490 00	350 00	—	Repairs and oiling	29,040
Granville	5,500 00	3,000 00	5,500 00	Gravel	2,950
Hampden	500 00	500 00	500 00	Repairs and oiling	4,000
Hampden	5,600 00	2,800 00	5,600 00	Bituminous macadam	3,100
Holland	5,000 00	1,000 00	5,000 00	Gravel	2,500
Holland	700 00	700 00	700 00	Repairs and oiling	13,464
Holyoke	25,000 00	25,000 00	25,000 00	Bituminous macadam	11,100
Ludlow	8,000 00	8,000 00	8,000 00	Bituminous macadam	6,099
Ludlow	2,000 00	2,000 00	2,000 00	Repairs and oiling	1,900
Ludlow	2,000 00	2,000 00	2,000 00	Bituminous macadam	750
Ludlow	3,000 00	3,000 00	3,000 00	Gravel	2,800
Monson	3,000 00	2,000 00	3,000 00	Bituminous macadam	1,500
Montgomery	3,000 00	1,000 00	3,000 00	Gravel	1,900
Palmer	4,000 00	4,000 00	4,000 00	Gravel	4,750
Russell	2,000 00	2,000 00	2,000 00	Stone retread	7,920
Russell	1,500 00	1,500 00	1,500 00	Gravel	1,200
Southwick	1,500 00	1,000 00	1,500 00	Bituminous macadam	1,212
Southwick	2,000 00	2,000 00	2,000 00	Bituminous macadam	200
Springfield	35,000 00	35,000 00	35,000 00	Bituminous macadam	9,500
Tolland	4,000 00	2,500 00	4,000 00	Gravel	2,500
Wales	1,500 00	1,000 00	1,500 00	Gravel	1,000
Wales	250 00	250 00	250 00	Repairs and oiling	3,450
West Springfield	15,000 00	15,000 00	15,000 00	Bituminous macadam	6,978
Westfield	15,000 00	15,000 00	15,000 00	Gravel and bituminous macadam	16,266
Westfield	2,000 00	2,000 00	2,000 00	Gravel	2,000
Westfield	2,000 00	2,000 00	2,000 00	Gravel	2,500
Wilbraham	4,000 00	4,000 00	4,000 00	Bituminous macadam	2,600
Wilbraham	2,500 00	2,500 00	2,500 00	Gravel	4,738
Hampshire County					
Amherst	10,000 00	10,000 00	10,000 00	Bituminous macadam	6,250
Belchertown	1,390 00	620 00	—	Repairs and oiling	16,368
Belchertown	32,500 00	7,500 00	10,000 00	Bituminous macadam	8,437
Chesterfield	11,700 00	1,800 00	4,500 00	Gravel retread	31,680
Chesterfield	6,150 00	1,100 00	2,750 00	Bridge and approaches	—
Chesterfield	1,000 00	500 00	500 00	Gravel	600
Chesterfield	1,000 00	500 00	500 00	Gravel	600
Cummington	945 00	75 00	—	Repairs and oiling	7,800
Cummington	1,000 00	500 00	500 00	Gravel	1,000
Cummington	3,000 00	1,500 00	1,500 00	Gravel	1,800
Easthampton	11,200 00	11,200 00	6,600 00	Bituminous macadam	3,150
Enfield	1,475 00	—	—	Repairs and oiling	11,616
Enfield	1,000 00	500 00	500 00	Repairs and oiling	8,876
Goshen	1,320 00	90 00	—	Repairs and oiling	9,400
Goshen	1,000 00	500 00	500 00	Gravel	750
Goshen	1,000 00	500 00	500 00	Gravel	800

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Hampshire County—Continued</i>					
Goshen	500 00	500 00	—	Oiling	10,560
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam	950
Granby	4,000 00	2,000 00	2,000 00	Bituminous macadam	1,800
Greenwich	2,000 00	1,000 00	1,000 00	Repairs and oiling	33,264
Hadley	20,000 00	10,000 00	10,000 00	Bituminous macadam	5,103
Hatfield	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,400
Huntington	2,000 00	1,000 00	1,000 00	Gravel	1,050
Middlefield	1,000 00	—	500 00	Gravel	500
Middlefield	2,000 00	1,000 00	1,000 00	Gravel	1,000
Middlefield	1,000 00	500 00	500 00	Gravel	750
Middlefield	1,000 00	—	—	Gravel	400
Northampton	5,000 00	5,000 00	3,000 00	Bituminous macadam	5,390
Pelham	1,000 00	500 00	500 00	Gravel	1,200
Pelham	6,800 00	1,200 00	4,000 00	Bituminous macadam	3,500
Plainfield	4,638 00	250 00	—	Oiling	13,281
Plainfield	24,000 00	1,000 00	3,000 00	Gravel and tar	2,950
South Hadley	20,000 00	10,000 00	10,000 00	Bituminous macadam	3,500
South Hadley	1,500 00	1,500 00	1,500 00	Bituminous macadam	935
Southampton	1,000 00	500 00	500 00	Stone retread	2,200
Ware	6,000 00	3,000 00	3,000 00	Repairs and oiling	11,101
Westhampton	1,500 00	750 00	750 00	Gravel	1,000
Williamsburg	10,400 00	1,600 00	4,000 00	2 Bridges and approaches	—
Worthington	1,000 00	500 00	500 00	Gravel	563
Worthington	4,000 00	2,000 00	2,000 00	Stone retread	3,800
Worthington	3,200 00	300 00	—	Repairs and calcium chloride	31,132
<i>Middlesex County</i>					
Acton	2,000 00	2,000 00	2,000 00	Repairs and oiling	76,032
Acton	2,500 00	2,500 00	2,500 00	Gravel	3,100
Acton	3,000 00	3,000 00	3,000 00	Gravel	4,500
Arlington	10,000 00	10,000 00	10,000 00	Reinforced cement concrete	2,415
Ashby	1,000 00	500 00	1,000 00	Repairs and oiling	17,952
Ashland	1,000 00	1,000 00	1,000 00	Gravel	1,500
Ashland	1,000 00	1,000 00	1,000 00	Repairs and oiling	11,616
Ashland	1,000 00	1,000 00	1,000 00	Gravel	1,796
Ashland	1,000 00	1,000 00	1,000 00	Gravel	1,500
Ayer	1,000 00	1,000 00	1,000 00	Repairs and oiling	21,550
Ayer	2,500 00	2,500 00	2,500 00	Gravel	2,550
Bedford	1,000 00	1,000 00	1,000 00	Gravel	1,500
Bedford	1,000 00	1,000 00	1,000 00	Gravel	2,100
Bedford	1,900 00	1,900 00	1,900 00	Repairs and oiling	43,296
Billerica	500 00	500 00	500 00	Gravel	780
Billerica	6,000 00	6,000 00	6,000 00	Gravel	4,000
Billerica	4,000 00	4,000 00	4,000 00	Gravel	3,000
Billerica	2,000 00	2,000 00	2,000 00	Repairs and oiling	59,664
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,080
Boxborough	900 00	900 00	900 00	Repairs and oiling	32,208
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,300
Burlington	3,000 00	3,000 00	3,000 00	Gravel	4,500
Burlington	3,000 00	2,000 00	1,000 00	Repairs and oiling	47,520
Burlington	2,000 00	2,000 00	2,000 00	Gravel	4,000
Carlisle	2,000 00	2,000 00	2,000 00	Oiling	66,528
Carlisle	4,000 00	2,000 00	4,000 00	Gravel	4,000
Carlisle	2,235 00	2,235 00	2,235 00	Gravel	3,300
Chelmsford	3,000 00	3,000 00	3,000 00	Gravel	3,600
Chelmsford	3,000 00	3,000 00	3,000 00	Bituminous macadam	3,750
Concord	8,400 00	8,400 00	8,400 00	Bituminous macadam	3,700
Concord	2,400 00	2,400 00	2,400 00	Bituminous macadam	900
Concord	400 00	400 00	400 00	Bituminous macadam	200
Concord	333 00	333 00	333 00	Bridge extension and bitum- inous macadam	—
Dunstable	2,000 00	1,000 00	2,000 00	Gravel	2,500
Dunstable	1,750 00	1,750 00	1,750 00	Repairs and oiling	46,458
Framingham	10,000 00	20,000 00	10,000 00	Reinforced cement concrete	3,100
Framingham	6,000 00	12,000 00	6,000 00	Bituminous macadam	5,300
Groton	4,000 00	4,000 00	4,000 00	Gravel	3,725
Groton	3,500 00	3,500 00	3,500 00	Repairs and oiling	34,320
Groton	3,000 00	3,000 00	3,000 00	Gravel	3,000
Holliston	1,750 00	1,750 00	1,750 00	Oiling	41,712
Holliston	1,000 00	1,000 00	1,000 00	Gravel	1,500
Holliston	14,500 00	2,500 00	8,000 00	Bituminous macadam	4,200
Holliston	2,500 00	2,500 00	2,500 00	Gravel	3,600
Hopkinton	2,000 00	2,000 00	2,000 00	Oiling	61,776
Hopkinton	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,700
Hudson	2,000 00	2,000 00	2,000 00	Bituminous macadam	700
Lexington	12,000 00	12,000 00	12,000 00	Bituminous macadam	2,700
Lincoln	1,000 00	1,000 00	1,000 00	Repairs and oiling	36,960
Lincoln	4,000 00	4,000 00	4,000 00	Repairs and oiling	15,840
Lincoln	1,200 00	1,200 00	1,200 00	Bituminous macadam	300
Littleton	1,000 00	1,000 00	1,000 00	Gravel	1,400
Littleton	1,000 00	1,000 00	1,000 00	Gravel	2,112
Littleton	2,000 00	2,000 00	2,000 00	Repairs and oiling	44,880
Lowell	2,000 00	2,000 00	2,000 00	Gravel	3,000
Lowell	4,500 00	4,500 00	4,500 00	Bituminous macadam	2,100
Lowell	2,500 00	2,500 00	2,500 00	Bituminous macadam	1,000
Malden	17,000 00	34,000 00	17,000 00	Reinforced concrete	3,330
Marlborough	1,700 00	1,700 00	1,700 00	Gravel	1,700

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Middlesex County—Continued</i>					
Marlborough	3,000 00	6,000 00	3,000 00	Bituminous macadam	1,200
Marlborough	4,500 00	9,000 00	4,500 00	Bituminous macadam	1,550
Melrose	12,000 00	24,000 00	12,000 00	Cement concrete	4,053
Natick	4,500 00	4,500 00	4,500 00	Bituminous macadam	2,550
North Reading	2,000 00	2,000 00	2,000 00	Repairs and oiling	52,272
North Reading	3,000 00	3,000 00	3,000 00	Bituminous macadam	3,000
Pepperell	4,000 00	4,000 00	4,000 00	Repairs and oiling	63,888
Pepperell	4,000 00	4,000 00	4,000 00	Gravel	5,000
Reading	4,000 00	4,000 00	4,000 00	Bituminous macadam	2,500
Sherborn	2,000 00	2,000 00	2,000 00	Oiling	71,280
Sherborn	1,000 00	500 00	1,000 00	Gravel	1,200
Sherborn	10,800 00	5,400 00	10,800 00	Bituminous macadam	4,850
Sherborn	1,200 00	600 00	1,200 00	Gravel	2,500
Shirley	10,000 00	5,000 00	10,000 00	Gravel	11,690
Shirley	750 00	750 00	750 00	Repairs and oiling	39,072
Stoneham	4,800 00	4,800 00	4,800 00	Bituminous macadam	2,200
Stow	1,500 00	1,500 00	1,500 00	Repairs and oiling	41,184
Sudbury	3,000 00	3,000 00	3,000 00	Repairs and oiling	79,728
Tewksbury	4,500 00	4,500 00	4,500 00	Bituminous macadam	2,000
Tewksbury	1,500 00	1,500 00	1,500 00	Gravel	1,300
Tewksbury	2,000 00	2,000 00	2,000 00	Gravel	3,700
Townsend	1,000 00	1,000 00	1,000 00	Repairs and oiling	10,888
Townsend	6,000 00	2,000 00	4,000 00	Gravel	6,500
Tyngsborough	2,000 00	2,000 00	2,000 00	Repairs and oiling	53,856
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel	2,300
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel	2,500
Wakefield	750 00	750 00	750 00	Bridge and approaches	—
Wayland	12,000 00	12,000 00	12,000 00	Bituminous macadam	6,180
Wayland	2,500 00	4,000 00	2,500 00	Repairs and oiling	48,576
Westford	3,000 00	3,000 00	3,000 00	Gravel	4,000
Westford	6,000 00	6,000 00	6,000 00	Repairs and oiling	100,848
Westford	3,000 00	3,000 00	3,000 00	Gravel	2,600
Westford	2,000 00	2,000 00	2,000 00	Gravel	3,000
Wilmington	4,000 00	2,000 00	4,000 00	Gravel	5,500
Wilmington	750 00	750 00	750 00	Repairs and oiling	20,064
Woburn	5,500 00	11,000 00	5,500 00	Bituminous concrete and bi- tuminous macadam	3,843
<i>Nantucket County</i>					
Nantucket	10,000 00	10,000 00	—	Bituminous concrete	4,700
<i>Norfolk County</i>					
Avon	7,300 00	7,000 00	7,000 00	Bituminous macadam	3,846
Bellingham	2,650 00	1,325 00	1,325 00	Repairs and oiling	23,700
Canton	8,000 00	8,000 00	8,000 00	Bituminous macadam	3,895
Canton	6,000 00	6,000 00	6,000 00	Bituminous macadam	2,050
Dedham	700 00	700 00	700 00	Bituminous macadam	520
Foxborough	9,999 00	9,999 00	9,999 00	Bituminous macadam	4,500
Franklin	4,000 00	4,000 00	4,000 00	Gravel	2,250
Franklin	4,800 00	4,800 00	4,800 00	Gravel	2,900
Holbrook	7,000 00	7,000 00	7,000 00	Gravel	5,350
Medway	6,000 00	6,000 00	6,000 00	Bituminous macadam	3,614
Medway	12,000 00	6,000 00	6,000 00	Bituminous macadam	4,170
Millis	3,000 00	3,000 00	3,000 00	Bituminous macadam	1,540
Millis	7,000 00	7,000 00	7,000 00	Bridge and approaches	—
Millis	1,000 00	1,000 00	1,000 00	Bituminous macadam	10,560
Millis	1,000 00	1,000 00	1,000 00	Gravel	2,000
Milton	15,000 00	15,000 00	15,000 00	Bituminous macadam	3,000
Needham	15,000 00	15,000 00	15,000 00	Bituminous macadam	6,950
Norfolk	500 00	—	500 00	Gravel	2,400
Norfolk	6,000 00	2,000 00	4,000 00	Gravel	4,964
Norfolk	1,000 00	1,000 00	1,000 00	Gravel and oiling	21,648
Norwood	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,150
Plainville	10,000 00	5,000 00	5,000 00	Gravel	5,800
Randolph	6,500 00	6,500 00	6,500 00	Gravel	4,825
Sharon	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,960
Sharon	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,800
Stoughton	5,000 00	5,000 00	5,000 00	Bituminous macadam	24,300
Walpole	500 00	—	—	Oiling	2,200
Westwood	14,000 00	14,000 00	14,000 00	Bituminous macadam	4,896
Wrentham	3,500 00	3,500 00	3,500 00	Gravel	3,000
<i>Plymouth County</i>					
Bridgewater	3,000 00	2,000 00	2,000 00	Gravel	3,000
Bridgewater	4,000 00	3,000 00	4,000 00	Bituminous macadam	485
Carver	5,500 00	5,500 00	7,000 00	Bituminous concrete and gravel	4,000
East Bridgewater	35,000 00	17,500 00	17,500 00	Bituminous concrete	9,800
Halifax	2,000 00	1,000 00	1,000 00	Bridge and approaches	—
Halifax	23,000 00	11,500 00	11,500 00	Bituminous concrete and gravel	7,575
Hanson	10,000 00	5,000 00	5,000 00	Bituminous macadam	4,500
Hingham	24,000 00	24,000 00	24,000 00	Bituminous macadam	11,620
Kingston	6,000 00	3,500 00	3,500 00	Bituminous macadam	2,100
Middleborough	16,000 00	12,000 00	12,000 00	Bituminous macadam	6,645
Pembroke	10,000 00	6,000 00	5,000 00	Bituminous macadam	4,763
Plympton	29,500 00	8,000 00	12,500 00	Bituminous concrete	9,590
Rochester	6,000 00	3,000 00	3,000 00	Gravel	4,850
Rockland	18,000 00	9,000 00	9,000 00	Bituminous macadam	7,000
West Bridgewater	5,300 00	2,650 00	2,650 00	Bituminous macadam	1,918

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
<i>Worcester County</i>					
Ashburnham	1,250 00	750 00	1,250 00	Repairs and oiling	16,896
Ashburnham	12,000 00	7,500 00	10,500 00	Gravel and tar	7,138
Athol	700 00	700 00	700 00	Repairs and oiling	15,312
Barre	1,200 00	1,200 00	1,200 00	Grading	2,200
Berlin	3,500 00	3,500 00	5,500 00	Gravel	1,875
Berlin	2,500 00	1,000 00	2,500 00	Repairs and oiling	43,296
Blackstone	2,000 00	2,000 00	2,000 00	Gravel	1,800
Blackstone	700 00	700 00	700 00	Repairs and oiling	17,424
Bolton	5,000 00	1,000 00	5,000 00	Bituminous macadam	1,450
Boyleston	5,000 00	500 00	5,000 00	Repairs and gravel	5,000
Boyleston	1,000 00	500 00	1,000 00	Repairs	37,658
Brookfield	2,000 00	1,000 00	2,000 00	Gravel and tar	1,400
Brookfield	4,000 00	2,000 00	4,000 00	Bituminous macadam	1,520
Brookfield	1,400 00	700 00	1,400 00	Repairs and oiling	10,096
Charlton	5,000 00	2,500 00	5,000 00	Bituminous macadam	2,000
Dana	1,600 00	400 00	1,600 00	Gravel and tar	950
Dana	2,500 00	1,000 00	2,500 00	Repairs and oiling	52,272
Fitchburg	30,000 00	30,000 00	20,000 00	Bituminous macadam	9,773
Gardner	5,000 00	10,000 00	5,000 00	Bituminous macadam	3,250
Grafton	1,500 00	1,500 00	1,500 00	Bituminous macadam	983
Hardwick	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,200
Harvard	800 00	400 00	800 00	Repairs and oiling	17,424
Harvard	1,000 00	500 00	1,000 00	Repairs and oiling	9,240
Holden	1,000 00	1,000 00	1,000 00	Repairs and oiling	24,024
Hubbardston	4,000 00	2,000 00	4,000 00	Gravel and tar	2,550
Hubbardston	1,000 00	500 00	1,000 00	Repairs and oiling	42,768
Hubbardston	1,000 00	500 00	1,000 00	Gravel	1,150
Leicester	4,500 00	4,500 00	4,500 00	Gravel and tar	3,800
Lunenburg	1,000 00	500 00	1,000 00	Repairs and oiling	14,450
Lunenburg	500 00	500 00	500 00	Grading	950
Mendon	1,000 00	500 00	1,000 00	Repairs and oiling	28,512
Mendon	2,200 00	1,100 00	2,200 00	Gravel	1,400
Millford	12,000 00	12,000 00	12,000 00	Bituminous macadam	3,650
Millville	6,000 00	3,000 00	6,000 00	Gravel	3,100
New Braintree	3,000 00	1,500 00	3,000 00	Gravel and tar	3,000
New Braintree	500 00	500 00	500 00	Repairs and oiling	25,608
New Braintree	400 00	400 00	400 00	Repairs and oiling	21,120
North Brookfield	3,000 00	3,000 00	3,000 00	Gravel and tar	2,991
North Brookfield	500 00	500 00	500 00	Repairs and oiling	10,560
Northborough	5,000 00	5,000 00	5,000 00	Gravel and tar	4,283
Northborough	400 00	400 00	400 00	Repairs and oiling	7,920
Northborough	700 00	700 00	700 00	Repairs and oiling	9,768
Northbridge	4,500 00	4,500 00	4,500 00	Gravel and tar	3,250
Northbridge	4,000 00	4,000 00	4,000 00	Gravel retreat	2,600
Oakham	3,000 00	1,500 00	3,000 00	Gravel	2,400
Oakham	600 00	600 00	600 00	Repairs and oiling	23,760
Oxford	500 00	500 00	500 00	Repairs and oiling	17,134
Paxton	500 00	500 00	500 00	Gravel	850
Paxton	4,000 00	2,000 00	4,000 00	Gravel and tar	2,600
Paxton	1,200 00	600 00	1,200 00	Repairs and oiling	15,048
Phillipston	1,300 00	400 00	1,300 00	Repairs and oiling	21,384
Phillipston	4,500 00	1,000 00	4,500 00	Gravel and tar	3,687
Princeton	4,000 00	2,000 00	4,000 00	Gravel and tar	3,700
Princeton	2,400 00	600 00	3,000 00	Gravel and tar	2,700
Princeton	1,000 00	500 00	1,000 00	Repairs and oiling	22,704
Princeton	300 00	200 00	300 00	Repairs and oiling	3,960
Princeton	1,200 00	600 00	1,200 00	Repairs and oiling	2,800
Princeton	400 00	200 00	400 00	Repairs and oiling	16,104
Royalston	500 00	500 00	500 00	Repairs and oiling	11,088
Royalston	4,000 00	2,000 00	4,000 00	Gravel and tar	4,142
Royalston	400 00	200 00	400 00	Repairs and oiling	13,200
Royalston	1,200 00	800 00	1,200 00	Repairs and oiling	25,608
Rutland	4,000 00	2,000 00	4,000 00	Gravel	40,664
Rutland	4,000 00	2,000 00	4,000 00	Gravel and tar	3,250
Southborough	1,700 00	1,700 00	1,700 00	Bituminous macadam	3,900
Southborough	500 00	500 00	500 00	Repairs and oiling	35,904
Spencer	5,000 00	5,000 00	5,000 00	Grading	5,466
Spencer	200 00	500 00	200 00	Repairs and oiling	20,064
Sterling	4,000 00	2,000 00	4,000 00	Gravel and tar	4,700
Sterling	12,000 00	6,000 00	12,000 00	Gravel	3,400
Sterling	2,000 00	1,000 00	2,000 00	Repairs and oiling	24,816
Sturbridge	2,000 00	1,000 00	2,000 00	Gravel and tar	1,650
Sutton	10,000 00	5,000 00	10,000 00	Bituminous macadam	4,590
Sutton	1,200 00	600 00	1,200 00	Repairs and oiling	10,197
Templeton	500 00	500 00	500 00	Repairs and oiling	6,072
Templeton	1,000 00	1,000 00	1,000 00	Repairs and oiling	18,744
Templeton	800 00	800 00	800 00	Repairs and oiling	13,200
Upton	4,000 00	2,000 00	4,000 00	Gravel	2,800
Warren	3,000 00	3,000 00	3,000 00	Gravel	2,000
West Boyleston	1,000 00	500 00	1,000 00	Repairs and oiling	15,576
West Boyleston	333 33	333 33	333 33	Repairs and oiling	8,450
West Brookfield	2,000 00	1,000 00	2,000 00	Gravel and tar	1,900
Westborough	10,000 00	9,000 00	11,000 00	Bituminous macadam	4,150
Westborough	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,300
Westminster	2,000 00	1,000 00	2,000 00	Gravel	1,100
Westminster	2,000 00	1,000 00	2,000 00	Gravel	1,600
Westminster	1,600 00	800 00	1,600 00	Repairs and oiling	23,496
Winchendon	700 00	700 00	700 00	Gravel	2,700

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$46,508.93	Hampshire, \$215,680.46
Berkshire, \$332,335.04	Middlesex, \$404,964.40
Bristol, \$85,430.40	Nantucket, \$11,889.89
Dukes, \$10,902.17	Norfolk, \$205,054.60
Essex, \$533,236.76	Plymouth, \$210,485.70
Franklin, \$177,397.78	Worcester, \$343,186.90
Hampden, \$299,317.33	Total, \$2,876,390.36

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$10,213.74; Bourne, \$630.32; Harwich, \$34,422.74; Provincetown, \$1,242.13.

Berkshire County.—Adams, \$2,210.32; Alford, \$6,928.01; Becket, \$4,876.10; Cheshire, \$14,800.69; Clarksburg, \$1,219.02; Egremont, \$4,510.41; Florida, \$4,875.15; Great Barrington, \$21,033.80; Hancock, \$26,684.26; Hinsdale, \$9,943.32; Lanesborough, \$5,972.30; Lenox, \$11,496.69; Monterey, \$63,731.41; Mount Washington, \$1,828.54; New Marlborough, \$10,971.22; North Adams, \$6,095.12; Otis, \$7,305.35; Peru, \$23,637.03; Richmond, \$3,047.51; Sandisfield, \$4,876.10; Savoy, \$25,702.48; Sheffield, \$3,657.07; Stockbridge, \$37,396.15; Tyringham, \$4,869.49; Washington, \$4,876.05; West Stockbridge, \$14,915.35; Williamstown, \$2,438.05; Windsor, \$2,438.05.

Bristol County.—Attleboro, \$10,087.56; Berkley, \$3,499.41; Dighton, \$19,738.57; Easton, \$18,285.37; Freetown, \$4,319.41; Mansfield, \$8,114.63; Norton, \$6,322.80; Rehoboth, \$1,364.54; Seekonk, \$4,806.57; Swansea, \$5,234.46; Westport, \$3,657.08.

Dukes County.—Chilmark, \$10,902.17.

Essex County.—Andover, \$249,902.46; Boxford, \$27,939.35; Danvers, \$2,766.59; Georgetown, \$32,357.13; Groveland, \$6,095.12; Hamilton, \$14,628.30; Haverhill, \$3,884.09; Ipswich, \$7,276.48; Lynnfield, \$10,615.64; Marblehead, \$7,494.56; Merrimac, \$4,429.38; Methuen, \$21,942.50; Middleton, \$3,047.56; Newbury, \$2,993.72; Newburyport, \$883.87; No. Andover, \$35,219.91; Rockport, \$8,023.92; Rowley, \$12,178.38; Salisbury, \$7,810.23; Saugus, \$11,769.89; Topsfield, \$36,215.30; Wenham, \$18,181.74; West Newbury, \$7,580.64.

Franklin County.—Ashfield, \$14,921.47; Buckland, \$18,894.93; Charlemont, \$2,435.98; Colrain, \$9,099.86; Conway, \$3,657.07; Deerfield, \$4,870.39; Gill, \$6,052.48; Greenfield, \$21,262.85; Hawley, \$3,413.30; Heath, \$2,438.05; Leverett, \$1,219.02; Leyden, \$2,438.05; Monroe, \$2,438.05; Montague, \$4,201.44; New Salem, \$4,876.10; Northfield, \$4,738.02; Orange, \$2,590.74; Rowe, \$2,438.05; Shelburne, \$10,361.71; Shutesbury, \$2,438.05; Sunderland, \$13,845.32; Warwick, \$30,377.47; Wendell, \$5,180.88; Whately, \$3,208.50.

Hampden County.—Agawam, \$20,206.88; Blandford, \$24,625.37; Brimfield, \$7,314.67; Chester, \$20,316.60; Chicopee, \$19,295.19; East Longmeadow, \$3,657.03; Granville, \$24,368.38; Hampden, \$7,436.06; Holland, \$6,287.39; Holyoke, \$29,256.65; Ludlow, \$26,763.19; Monson, \$3,924.34; Montgomery, \$3,657.07; Palmer, \$12,174.97; Russell, \$4,266.59; Southwick, \$11,780.52; Springfield, \$9,128.91; Tolland, \$4,876.10; Wales, \$2,789.28; Westfield, \$28,729.01; West Springfield, \$20,582.81; Wilbraham, \$7,880.32.

Hampshire County.—Amherst, \$12,068.28; Belchertown, \$31,401.80; Chesterfield, \$21,550.50; Cummington, \$6,028.08; Easthampton, \$13,939.84; Enfield, \$3,017.08; Goshen, \$4,656.67; Granby, \$7,314.15; Greenwich, \$2,438.05; Hadley, \$12,647.15; Hatfield, \$2,438.05; Huntington, \$2,438.03; Middlefield, \$12,534.95; Northampton, \$6,095.12; Pelham, \$9,153.71; Plainfield, \$11,282.40; Southampton, \$1,219.02; South Hadley, \$25,815.99; Ware, \$7,314.15; Westhampton, \$1,828.54; Williamsburg, \$6,613.62; Worthington, \$13,885.28.

Middlesex County.—Acton, \$9,142.69; Arlington, \$14,720.69; Ashby, \$1,218.98; Ashland, \$5,679.24; Ayer, \$10,038.94; Bedford, \$5,933.04; Billerica, \$11,532.41; Boxborough, \$3,192.88; Burlington, \$9,504.78; Carlisle, \$10,638.99; Chelmsford, \$8,531.64; Concord, \$16,496.90; Dunstable, \$4,570.99; Framingham, \$15,489.08; Groton, \$12,790.36; Holliston, \$21,869.29; Hopkinton, \$7,313.84; Hudson, \$4,588.24; Lexington, \$10,550.83; Lincoln, \$6,887.49; Littleton, \$4,864.94;

Lowell, \$15,056.67; Malden, \$16,647.99; Marlboro, \$15,299.28; Melrose, \$11,213.79; Natick, \$4,871.16; North Reading, \$6,095.10; Pepperell, \$9,749.30; Reading, \$4,876.10; Sherborn, \$15,511.18; Shirley, \$10,422.10; Stoneham, \$13,160.44; Stow, \$1,828.54; Sudbury, \$3,657.00; Tewksbury, \$9,752.20; Townsend, \$8,386.92; Tyngsboro, \$9,746.86; Wakefield, \$452.03; Waltham, \$1,617.63; Watertown, \$1,021.83; Wayland, \$14,974.27; Westford, \$16,306.02; Weston, \$2,438.10; Wilmington, \$8,059.44; Woburn, \$8,264.21.

Nantucket County. — Nantucket, \$11,889.89.

Norfolk County. — Avon, \$8,261.28; Bellingham, \$4,382.70; Canton, \$13,181.92; Dedham, \$1,029.60; Dover, \$10,628.31; Foxboro, \$16,557.68; Franklin, \$7,957.73; Holbrook, \$6,347.60; Medway, \$23,138.23; Millis, \$14,889.58; Milton, \$14,336.76; Needham, \$17,895.09; Norfolk, \$12,231.85; Norwood, \$6,896.57; Plainville, \$8,074.24; Randolph, \$3,124.26; Sharon, \$13,754.10; Stoughton, \$6,277.46; Westwood, \$14,261.10; Wrentham, \$1,828.54.

Plymouth County. — Bridgewater, \$7,381.45; Carver, \$6,680.49; East Bridgewater, \$35,830.44; Halifax, \$19,289.44; Hanover, \$289.34; Hanson, \$14,103.70; Hingham, \$22,135.32; Kingston, \$7,266.51; Marshfield, \$8,278.91; Middleborough, \$12,953.71; Pembroke, \$13,287.30; Plympton, \$31,144.35; Rochester, \$9,032.98; Rockland, \$15,357.62; Wareham, \$3,136.65; West Bridgewater, \$4,317.49.

Worcester County. — Ashburnham, \$8,646.76; Athol, \$1,908.46; Barre, \$454.57; Berlin, \$6,815.30; Blackstone, \$4,292.26; Bolton, \$4,834.15; Boylston, \$7,314.09; Brookfield, \$9,917.91; Charlton, \$8,564.95; Dana, \$4,998.00; Fitchburg, \$22,073.42; Gardner, \$7,599.04; Grafton, \$1,615.63; Hardwick, \$4,512.58; Harvard, \$13,780.22; Holden, \$2,391.98; Hubbardston, \$11,824.29; Leicester, \$9,380.54; Lunenburg, \$1,822.84; Mendon, \$4,188.40; Milford, \$11,940.43; Millbury, \$2,402.67; Millville, \$7,782.72; New Braintree, \$5,426.43; North Brookfield, \$3,552.41; Northborough, \$3,374.80; Northbridge, \$6,343.23; Oakham, \$5,400.95; Oxford, \$604.91; Paxton, \$8,914.89; Petersham, \$4,935.84; Phillipston, \$6,762.95; Princeton, \$9,238.58; Royalston, \$8,164.10; Rutland, \$8,048.37; Southborough, \$2,660.03; Spencer, \$6,863.06; Sterling, \$31,344.51; Sturbridge, \$2,438.05; Sutton, \$8,864.38; Templeton, \$3,377.12; Upton, \$5,649.03; Uxbridge, \$1,423.62; Warren, \$3,636.30; West Boylston, \$4,600.66; West Brookfield, \$3,535.92; Westborough, \$23,233.05; Westminster, \$7,387.14; Winchendon, \$8,345.36.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Barnstable County:</i>			
Brewster	40	\$4,000 00	\$4,000 00
Dennis	78	7,800 00	7,800 00
Eastham	41	4,100 00	3,075 00
Mashpee	27	2,700 00	2,025 00
Sandwich	67	6,700 00	5,025 00
Truro	28	2,800 00	2,100 00
Wellfleet	35	3,500 00	3,500 00
Yarmouth	51	5,100 00	7,650 00
<i>Berkshire County:</i>			
Alford	19	1,900 00	760 00
Becket	58	5,800 00	2,320 00
Cheshire	42	4,200 00	4,200 00
Clarksburg	14	1,400 00	2,100 00

Counties and Towns	Miles of Road	Allotment State	Town
<i>Berkshire County — Con.</i>			
Egremont	32	3,200 00	2,400 00
Florida	43	4,300 00	3,225 00
Hancock	30	3,000 00	1,500 00
Hinsdale	35	3,500 00	2,625 00
Lanesborough	41	4,100 00	3,075 00
Monterey	52	5,200 00	2,080 00
Mount Washington	20	2,000 00	500 00
New Ashford	9	900 00	360 00
New Marlborough	85	8,500 00	3,400 00
Otis	48	4,800 00	1,200 00
Peru	37	3,700 00	555 00
Richmond	34	3,400 00	1,700 00
Sandisfield	79	7,900 00	1,185 00
Savoy	56	5,600 00	840 00
Sheffield	77	7,700 00	3,850 00
Tyringham	25	2,500 00	1,250 00
Washington	51	5,100 00	765 00
West Stockbridge	36	3,600 00	2,700 00
Windsor	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkley	42	4,200 00	2,100 00
Freetown	47	4,700 00	4,700 00
Norton	55	5,500 00	6,875 00
Raynham	45	4,500 00	4,500 00
Rehoboth	109	10,900 00	5,450 00
Swansea	55	5,500 00	8,250 00
<i>Dukes County:</i>			
Chilmark	14	\$1,400 00	\$1,400 00
West Tisbury	13	1,300 00	1,625 00
<i>Essex County:</i>			
Boxford	52	5,200 00	2,600 00
Essex	21	2,100 00	3,150 00
Georgetown	34	3,400 00	4,250 00
Groveland	29	2,900 00	4,350 00
Merrimac	31	3,100 00	4,650 00
Middleton	30	3,000 00	3,750 00
Newbury	36	3,600 00	5,400 00
Rowley	31	3,100 00	3,875 00
Topsfield	38	3,800 00	5,700 00
West Newbury	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield	80	8,000 00	3,200 00
Bernardston	40	4,000 00	3,000 00
Buckland	45	4,500 00	6,750 00
Charlemont	49	4,900 00	3,675 00
Colrain	84	8,400 00	4,200 00
Conway	73	7,300 00	1,825 00
Gill	36	3,600 00	2,700 00
Hawley	49	4,900 00	735 00
Heath	53	5,300 00	795 00
Leverett	38	3,800 00	1,520 00
Leyden	40	4,000 00	600 00
Monroe	18	1,800 00	2,700 00
Northfield	66	6,600 00	4,950 00
New Salem	64	6,400 00	1,600 00
Rowe	41	4,100 00	2,050 00

Counties and Towns	Miles of Road	Allotments State	Town
<i>Franklin County — Con.</i>			
Shelburne	48	4,800 00	6,000 00
Shutesbury	40	4,000 00	1,000 00
Sunderland	34	3,400 00	3,400 00
Warwick	55	5,500 00	1,375 00
Wendell	48	4,800 00	2,400 00
Whately	40	4,000 00	3,000 00
<i>Hampden County:</i>			
Blandford	83	8,300 00	2,075 00
Brimfield	59	5,900 00	2,950 00
Chester	66	6,600 00	4,950 00
Granville	73	7,300 00	1,825 00
Hampden	34	3,400 00	1,700 00
Holland	30	3,000 00	450 00
Monson	101	10,100 00	10,100 00
Montgomery	27	2,700 00	675 00
Southwick	50	5,000 00	3,750 00
Tolland	41	4,100 00	615 00
Wales	25	2,500 00	1,250 00
Wilbraham	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown	115	11,500 00	4,600 00
Chesterfield	59	5,900 00	885 00
Cummington	49	4,900 00	1,225 00
Enfield	37	3,700 00	1,480 00
Goshen	28	2,800 00	1,120 00
Hadley	58	5,800 00	7,250 00
Granby	48	4,800 00	2,400 00
Greenwich	39	3,900 00	975 00
Huntington	40	4,000 00	4,000 00
Hatfield	46	4,600 00	6,900 00
Middlefield	38	3,800 00	570 00
Pelham	39	3,900 00	1,950 00
Plainfield	49	4,900 00	735 00
Prescott	39	3,900 00	585 00
Southampton	56	5,600 00	2,240 00
Westhampton	50	5,000 00	750 00
Williamsburg	43	4,300 00	4,300 00
Worthington	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton	58	5,800 00	7,250 00
Ashby	56	5,600 00	2,800 00
Ashland	38	3,800 00	5,700 00
Boxborough	23	2,300 00	920 00
Burlington	33	3,300 00	4,950 00
Carlisle	43	4,300 00	1,720 00
Dunstable	37	3,700 00	925 00
Holliston	50	5,000 00	7,500 00
Hopkinton	66	6,600 00	6,600 00
Lincoln	40	4,000 00	6,000 00
Littleton	42	4,200 00	5,250 00
North Reading	31	3,100 00	4,650 00
Pepperell	68	6,800 00	8,500 00
Sherborn	43	4,300 00	4,300 00
Shirley	46	4,600 00	5,750 00
Stow	45	4,500 00	3,375 00
Sudbury	62	6,200 00	6,200 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Middlesex County — Con.</i>			
Tewksbury	56	5,600 00	7,000 00
Townsend	70	7,000 00	5,250 00
Tyngsborough	40	4,000 00	3,000 00
<i>Norfolk County:</i>			
Bellingham	42	4,200 00	6,300 00
Medfield	40	4,000 00	6,000 00
Medway	44	4,400 00	6,600 00
Millis	39	3,900 00	5,850 00
Norfolk	40	4,000 00	4,000 00
Plainville	34	3,400 00	4,250 00
Wrentham	43	4,300 00	6,450 00
<i>Plymouth County:</i>			
Carver	67	6,700 00	6,700 00
Halifax	33	3,300 00	3,300 00
Hanson	36	3,600 00	5,400 00
Lakeville	45	4,500 00	3,375 00
Norwell	47	4,700 00	4,700 00
Pembroke	47	4,700 00	5,875 00
Plympton	30	3,000 00	1,500 00
Rochester	49	4,900 00	3,675 00
West Bridgewater	39	3,900 00	5,850 00
<i>Worcester County:</i>			
Ashburnham	75	7,500 00	5,625 00
Barre	120	12,000 00	9,000 00
Berlin	39	3,900 00	2,925 00
Bolton	53	5,300 00	2,650 00
Boylston	41	4,100 00	2,050 00
Brookfield	37	3,700 00	3,700 00
Charlton	115	11,500 00	4,700 00
Dana	43	4,300 00	1,720 00
Douglas	70	7,000 00	5,250 00
East Brookfield	19	1,900 00	2,375 00
Harvard	56	5,600 00	5,600 00
Hardwick	96	9,600 00	7,200 00
Holden	77	7,700 00	9,625 00
Hubbardston	75	7,500 00	1,875 00
Lancaster	58	5,800 00	7,250 00
Leicester	56	5,600 00	8,400 00
Lunenburg	67	6,700 00	5,025 00
Mendon	36	3,600 00	2,700 00
New Braintree	49	4,900 00	1,225 00
North Brookfield	69	6,900 00	6,900 00
Northborough	47	4,700 00	4,700 00
Oakham	45	4,500 00	1,125 00
Oxford	66	6,600 00	8,250 00
Paxton	29	2,900 00	2,175 00
Petersham	71	7,100 00	5,325 00
Phillipston	41	4,100 00	1,025 00
Princeton	72	7,200 00	2,880 00
Royalston	67	6,700 00	2,680 00
Rutland	68	6,800 00	3,400 00
Southborough	48	4,800 00	7,200 00
Spencer	100	10,000 00	12,500 00
Sterling	72	7,200 00	5,400 00
Sturbridge	66	6,600 00	3,300 00
Sutton	84	8,400 00	4,200 00

Counties and Towns	Miles of Road		Allotments State Town	
<i>Worcester County</i> — Con.				
Templeton	62	6,200 00	7,700 00	
Upton	60	6,000 00	4,500 00	
Warren	60	6,000 00	9,000 00	
West Boylston	35	3,500 00	4,375 00	
West Brookfield	53	5,300 00	3,975 00	
Westborough	57	5,700 00	8,550 00	
Westminster	77	7,700 00	3,850 00	

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable, \$39,103.74	Hampden, \$68,811.00
Berkshire, \$116,960.91	Hampshire, \$97,917.10
Bristol, \$38,296.95	Middlesex, \$102,739.99
Dukes, \$3,102.81	Norfolk, \$31,884.17
Essex, \$19,151.74	Plymouth, \$43,641.80
Franklin, \$115,296.83	Worcester, \$268,965.42
	Total, \$945,872.46

Details of the foregoing expenditures follow: —

Barnstable County. — Brewster, \$4,285.35; Dennis, \$8,257.17; Eastham, \$4,404.32; Mashpee, \$2,820.74; Sandwich, \$7,177.69; Truro, \$3,102.81; Wellfleet, \$3,804.74; Yarmouth, \$5,250.92.

Berkshire County. — Alford, \$2,061.31; Becket, \$7,023.05; Cheshire, \$4,519.08; Clarksburg, \$1,326.27; Egremont, \$3,396.89; Florida, \$5,857.67; Hancock, \$3,113.07; Hinsdale, \$3,735.16; Lanesborough, \$4,929.33; Monterey, \$5,970.36; Mt. Washington, \$3,037.72; New Ashford, \$247.99; New Marlborough, \$10,228.89; Otis, \$5,058.47; Peru, \$5,130.59; Richmond, \$3,921.35; Sandisfield, \$9,132.54; Savoy, \$6,051.09; Sheffield, \$13,374.64; Tyringham, \$2,371.44; Washington, \$5,954.66; West Stockbridge, \$3,419.28; Windsor, \$7,100.06.

Bristol County. — Berkley, \$4,556.58; Freetown, \$5,099.02; Norton, \$5,966.95; Raynham, \$4,882.05; Rehoboth, \$11,825.40; Swansea, \$5,966.95.

Dukes County. — Chilmark, \$1,588.29; West Tisbury, \$1,514.52.

Essex County. — Boxford, \$4,656.92; Groveland, \$2,603.76; Merrimac, \$3,254.70; Middleton, \$2,893.06; Rowley, \$2,448.08; Topsfield, \$3,295.22.

Franklin County. — Ashfield, \$9,302.58; Bernardston, \$4,366.39; Buckland, \$5,207.49; Charlemont, \$5,451.60; Colrain, \$8,814.81; Conway, \$8,082.50; Gill, \$3,905.64; Hawley, \$5,316.01; Heath, \$5,749.97; Leverett, \$4,122.62; Leyden, \$4,339.60; Monroe, \$1,952.82; New Salem, \$7,295.95; Northfield, \$7,323.07; Rowe, \$4,692.19; Shelburne, \$5,532.99; Shutesbury, \$4,339.60; Sunderland, \$3,607.29; Warwick, \$5,966.88; Wendell, \$5,587.23; Whately, \$4,339.60.

Hampden County. — Blandford, \$9,093.46; Brimfield, \$6,130.00; Chester, \$6,697.45; Granville, \$7,919.76; Hampden, \$3,851.39; Holland, \$3,834.52; Monson, \$10,372.89; Montgomery, \$2,610.57; Southwick, \$5,451.62; Tolland, \$5,492.43; Wales, \$2,691.84; Wilbraham, \$4,665.07.

Hampshire County. — Belchertown, \$12,530.58; Chesterfield, \$6,238.17; Cummington, \$5,316.01; Enfield, \$4,041.25; Goshen, \$3,037.72; Granby, \$5,207.51; Greenwich, \$4,231.11; Hadley, \$6,238.17; Hatfield, \$4,990.54; Huntington, \$4,324.26; Middlefield, \$3,932.53; Pelham, \$4,095.50; Plainfield, \$5,343.13; Prescott, \$3,715.78; Southampton, \$6,075.43; Westhampton, \$6,102.56; Williamsburg, \$4,556.58; Worthington, \$7,940.27.

Middlesex County. — Acton, \$6,292.42; Ashby, \$6,075.43; Ashland, \$4,122.62; Boxborough, \$2,495.27; Burlington, \$3,580.17; Carlisle, \$4,665.07; Dunstable, \$4,014.13; Holliston, \$5,424.50; Hopkinton, \$7,160.34; Lincoln, \$4,339.60; Littleton, \$4,556.58; North Reading, \$3,363.19; Pepperell, \$7,377.31; Sherborn, \$4,665.07; Shirley, \$4,990.54; Stow, \$4,882.05; Sudbury, \$6,726.37; Tewksbury, \$6,075.43; Townsend, \$7,594.30; Tyngsborough, \$4,339.60.

Norfolk County. — Bellingham, \$4,556.57; Medfield, \$4,339.60; Medway, \$6,063.56; Millis, \$4,231.11; Norfolk, \$4,339.60; Plainville, \$3,688.66; Wrentham, \$4,665.07.

Plymouth County. — Carver, \$7,133.13; Halifax, \$3,992.75; Hanson, \$3,732.24; Lakeville, \$5,018.06; Norwell, \$5,792.41; Pembroke, \$4,825.37; Plympton, \$3,275.33; Rochester, \$5,714.37; West Bridgewater, \$4,158.14.

Worcester County. — Ashburnham, \$8,167.44; Barre, \$13,007.04; Berlin, \$4,231.11; Bolton, \$5,749.97; Boylston, \$4,448.09; Brookfield, \$4,185.51; Charlton, \$11,605.08; Dana, \$4,665.07; Douglas, \$7,267.74; East Brookfield, \$2,061.31; Hardwick, \$10,290.18; Harvard, \$6,075.43; Holden, \$8,249.11; Hubbardston, \$8,618.94; Lancaster, \$6,292.42; Leicester, \$6,075.44; Lunenburg, \$7,268.83; Mendon, \$3,905.64; New Braintree, \$5,316.01; North Brookfield, \$7,625.15; Northborough, \$5,099.03; Oakham, \$4,553.93; Oxford, \$7,074.35; Paxton, \$3,247.06; Petersham, \$7,702.78; Phillipston, \$4,751.08; Princeton, \$7,811.28; Royalston, \$7,268.82; Rutland, \$7,377.32; Southborough, \$5,207.52; Spencer, \$9,438.62; Sterling, \$7,573.43; Sturbridge, \$6,459.52; Sutton, \$9,106.80; Templeton, \$6,760.41; Upton, \$4,354.71; Warren, \$6,200.89; West Boylston, \$3,797.15; West Brookfield, \$5,802.64; Westborough, \$5,918.84; Westminster, \$8,353.73.

CONTRACTS FOR THE CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF APPROPRIATIONS

In Nov., 1931, preparations were made for advertising contracts under the provisions of Section 27, Chapter 29, General Laws, as amended, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$2,370,000 for construction and \$1,300,000 for reconstruction, these amounts being twenty-five per cent of the appropriations of \$9,480,000 and \$5,200,000, respectively, for the fiscal year ending Nov. 30, 1931. The construction appropriation includes the sum of \$7,000,000 under the provisions of Chapter 122 of the Acts of 1931. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 4, 1931.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 420, Acts of 1930, as amended by Chapter 454, Acts of 1931, the following contracts were entered into: —

Revere. — Dec. 17, 1930, contract made with M. McDonough Co., of Saugus, for constructing a steel and concrete bridge with approaches in the vicinity of the intersection of Broadway and Revere Beach Parkway in Revere, the surface consisting of bituminous macadam. The proposal amounted to \$151,556.35. Work completed Aug. 15, 1931. Expenditure during 1931, \$164,556.25.

Canton-Dedham-Westwood. — July 21, 1931, contract made with the Lee Construction Co., Inc., of Boston, for constructing two bridges over the New York, New Haven & Hartford Railroad Company in Westwood, and about 20,854 feet of State highway in Canton, Dedham and Westwood, the surface except over the bridges consisting of bituminous macadam, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$326,097.40. Work about one-third completed. Expenditure during 1931, \$165,532.99.

Dedham-Westwood-Needham. — Oct. 13, 1931, contract made with the John Iafolla Construction Company, of Dedham, for constructing about 18,227 feet of State highway in Dedham, Westwood and Needham, the surface consisting of bituminous macadam. The proposal amounted to \$331,155.20. Work just commenced. Expenditure during 1931, \$18,595.25.

Boston. — Nov. 3, 1931, contract made with John F. Kennedy & Company, of Somerville, for constructing a bridge at Morton Street, and about 11,142 feet of highway on Canterbury Street, new location and Lawn Street, the surface over the bridge consisting of bituminous concrete, the surface of the highway consisting of sections of bituminous macadam and sheet asphalt. The proposal amounted to \$382,199.55. Work just commenced. Expenditure during 1931, \$9,054.28.

Brookline-Boston. — Nov. 24, 1931, contract made with M. McDonough Co., of Saugus, for constructing about 14,330 feet of parkway or boulevard in Brookline and Boston, the surface consisting of sections of bituminous macadam and sheet asphalt. The proposal amounted to \$465,260.65. Work not yet commenced.

DISTRIBUTION OF A CERTAIN PROPORTION OF THE GAS TAX, AS PROVIDED UNDER
CHAPTER 122, SECT. 4, ACTS OF 1931

Distribution as follows:—

Abington, \$2,614.76; Acushnet, \$1,542.71; Adams, \$5,386.41; Agawam, \$3,320.75; Amesbury, \$5,098.79; Amherst, \$4,052.88; Andover, \$7,635.10; Arlington, \$19,741.45; Athol, \$4,523.54; Attleboro, \$10,066.83; Auburn, \$2,274.84; Avon, \$889.02; Ayer, \$1,438.12; Barnstable, \$7,347.48; Belmont, \$12,341.68; Beverly, \$16,708.33; Billerica, \$3,765.26; Blackstone, \$1,228.94; Boston, \$678,452.26; Bourne, \$3,163.86; Braintree, \$8,445.68; Bridgewater, \$2,823.94; Brockton, \$29,991.32; Brookline, \$53,498.03; Cambridge, \$68,846.68; Canton, \$3,582.22; Chatham, \$1,778.04; Chelmsford, \$3,425.34; Chelsea, \$22,774.58; Chicopee, \$20,813.50; Clinton, \$6,458.46; Cohasset, \$3,425.34; Concord, \$3,320.75; Dalton, \$2,562.47; Danvers, \$4,837.31; Dartmouth, \$4,418.95; Dedham, \$8,733.30; Deerfield, \$1,830.33; Dighton, \$1,778.04; Dover, \$1,281.23; Dracut, \$2,065.66; Dudley, \$1,830.33; Duxbury, \$2,222.55; E. Bridgewater, \$2,091.81; E. Longmeadow, \$1,359.68; Easthampton, \$5,595.59; Easton, \$2,431.73; Edgartown, \$1,568.86; Erving, \$1,045.91; Everett, \$25,441.63; Fairhaven, \$4,758.87; Fall River, \$56,374.27; Falmouth, \$6,902.97; Fitchburg, \$22,068.59; Foxborough, \$2,222.55; Framingham, \$12,943.07; Franklin, \$3,582.22; Gardner, \$9,988.39; Gay Head, \$52.30; Gloucester, \$13,649.06; Gosnold, \$418.36; Grafton, \$2,039.51; Great Barrington, \$4,262.06; Greenfield, \$10,615.93; Groton, \$1,647.30; Hamilton, \$1,908.78; Hanover, \$1,333.53; Harwich, \$1,804.19; Haverhill, \$24,395.73; Hingham, \$4,915.75; Holbrook, \$1,464.27; Holyoke, \$42,149.96; Hopedale, \$2,117.96; Hudson, \$3,268.45; Hull, \$5,543.30; Ipswich, \$2,928.53; Kingston, \$1,542.71; Lawrence, \$49,052.93; Lee, \$2,196.40; Lenox, \$2,300.99; Leominster, \$10,328.31; Lexington, \$6,458.46; Longmeadow, \$3,529.93; Lowell, \$48,843.75; Ludlow, \$3,843.70; Lynn, \$50,830.97; Lynnfield, \$1,098.20; Malden, \$25,807.70; Manchester, \$4,262.06; Mansfield, \$3,137.71; Marblehead, \$6,615.35; Marion, \$1,621.15; Marlborough, \$6,929.12; Marshfield, \$2,144.11; Mattapoisett, \$1,281.23; Maynard, \$3,006.98; Medford, \$26,749.01; Melrose, \$12,550.86; Methuen, \$8,576.42; Middleborough, \$3,634.52; Milford, \$5,883.21; Millbury, \$2,353.29; Millville, \$732.13; Milton, \$12,707.74; Montague, \$5,151.08; Nahant, \$1,699.60; Nantucket, \$3,660.67; Natick, \$6,196.99; Needham, \$7,086.00; New Bedford, \$67,591.59; Newburyport, \$5,569.44; Newton, \$51,092.45; North Adams, \$11,374.21; North Andover, \$3,634.52; No. Attleboro, \$4,235.91; Northampton, \$11,583.40; Northbridge, \$4,549.69; Norwood, \$9,962.24; Oak Bluffs, \$1,568.86; Orange, \$2,379.43; Orleans, \$1,255.09; Palmer, \$4,575.83; Peabody, \$9,648.47; Pittsfield, \$24,787.94; Plymouth, \$10,432.90; Provincetown, \$1,699.60; Quincy, \$45,967.51; Randolph, \$2,248.70; Reading, \$5,543.30; Revere, \$14,904.14; Rockland, \$3,556.08; Rockport, \$2,065.66; Russell, \$1,647.30; Salem, \$21,127.28; Salisbury, \$1,307.38; Saugus, \$5,203.38; Scituate, \$4,131.32; Seekonk, \$1,699.60; Sharon, \$2,196.40; Shrewsbury, \$2,902.39; Somerset, \$4,209.77; Somerville, \$45,183.09; South Hadley, \$3,765.26; Southbridge, \$5,700.18; Springfield, \$109,297.05; Stockbridge, \$1,830.33; Stoneham, \$4,706.57; Stoughton, \$3,712.96; Swampscott, \$8,707.16; Taunton, \$16,106.93; Tisbury, \$1,882.63; Uxbridge, \$3,085.42; Wakefield, \$8,445.68; Walpole, \$5,386.41; Waltham, \$20,525.88; Ware, \$3,059.27; Wareham, \$4,392.80; Watertown, \$19,427.68; Wayland, \$1,882.63; Webster, \$5,020.34; Wellesley, \$10,668.23; Wenham, \$1,202.79; W. Springfield, \$10,642.08; Westfield, \$8,811.75; Westford, \$1,778.04; Weston, \$2,954.68; Westport, \$2,300.99; Westwood, \$1,490.41; Weymouth, \$15,008.73; Whitman, \$3,399.19; Williamstown, \$2,614.76; Wilmington, \$1,464.27; Winchendon, \$2,588.61; Winchester, \$10,197.57; Winthrop, \$8,968.63; Woburn, \$8,053.47; Worcester, \$124,044.30. Total, \$2,500,000.00.

ADDITIONAL AMOUNTS PAID FROM GAS TAX IN ACCORDANCE WITH PROVISIONS
OF CHAPTER 122, SECTION 4, ACTS OF 1931

Distribution to towns eligible for aid under the provisions of section 26, chapter 81, Revised Laws, as amended as follows:—

Acton, \$1,450.00; Alford, \$475.00; Ashburnham, \$1,875.00; Ashby, \$1,400.00; Ashfield, \$2,000.00; Ashland, \$950.00; Barre, \$3,000.00; Becket, \$1,450.00; Bedford, \$875.00; Belchertown, \$2,875.00; Bellingham, \$1,050.00; Berkley,

\$1,050.00; Berlin, \$975.00; Bernardston, \$1,000.00; Blandford, \$2,075.00; Bolton, \$1,325.00; Boxborough, \$755.00; Boxford, \$1,300.00; Boylston, \$1,025.00; Brewster, \$1,000.00; Brimfield, \$1,475.00; Brookfield, \$925.00; Buckland, \$1,125.00; Burlington, \$825.00; Carlisle, \$1,075.00; Carver, \$1,675.00; Charlemont, \$1,225.00; Charlton, \$2,875.00; Cheshire, \$1,050.00; Chester, \$1,650.00; Chesterfield, \$1,475.00; Chilmark, \$350.00; Clarksburg, \$350.00; Cclrain, \$2,100.00; Conway, \$1,825.00; Cummington, \$1,225.00; Dana, \$1,075.00; Dennis, \$1,950.00; Douglas, \$1,750.00; Dunstable, \$925.00; E. Brookfield, \$475.00; Eastham, \$1,025.00; Egremont, \$800.00; Enfield, \$925.00; Essex, \$525.00; Florida, \$1,075.00; Freetown, \$1,175.00; Georgetown, \$850.00; Gill, \$900.00; Goshen, \$700.00; Granby, \$1,200.00; Granville, \$1,825.00; Greenwich, \$975.00; Groveland, \$725.00; Hadley, \$1,450.00; Halifax, \$825.00; Hampden, \$850.00; Hancock, \$750.00; Hanson, \$900.00; Hardwick, \$2,400.00; Harvard, \$1,400.00; Hatfield, \$1,150.00; Hawley, \$1,225.00; Heath, \$1,325.00; Hinsdale, \$875.00; Holden, \$1,925.00; Holland, \$750.00; Holliston, \$1,250.00; Hopkinton, \$1,650.00; Hubbardston, \$1,875.00; Huntington, \$1,000.00; Lakeville, \$1,125.00; Lancaster, \$1,450.00; Lanesborough, \$1,025.00; Leicester, \$1,400.00; Leverett, \$950.00; Leyden, \$1,000.00; Lincoln, \$1,000.00; Littleton, \$1,050.00; Lunenburg, \$1,675.00; Mashpee, \$675.00; Medfield, \$1,000.00; Medway, \$1,100.00; Mendon, \$900.00; Merrimac, \$775.00; Middlefield, \$950.00; Middleton, \$750.00; Millis, \$975.00; Monroe, \$450.00; Monson, \$2,525.00; Monterey, \$1,300.00; Montgomery, \$675.00; Mt. Washington, \$500.00; New Ashford, \$225.00; New Braintree, \$1,225.00; N. Marlborough, \$2,125.00; New Salem, \$1,600.00; Newbury, \$900.00; Norfolk, \$1,000.00; No. Brookfield, \$1,725.00; No. Reading, \$775.00; Northborough, \$1,175.00; Northfield, \$1,650.00; Norton, \$1,400.00; Norwell, \$1,175.00; Oakham, \$1,125.00; Otis, \$1,200.00; Oxford, \$1,650.00; Paxton, \$725.00; Pelham, \$975.00; Pembroke, \$1,175.00; Pepperell, \$1,700.00; Peru, \$925.00; Petersham, \$1,775.00; Phillipston, \$1,025.00; Plainfield, \$1,225.00; Plainville, \$850.00; Plympton, \$750.00; Prescott, \$975.00; Princeton, \$1,800.00; Raynham, \$1,125.00; Rehoboth, \$2,725.00; Richmond, \$850.00; Rochester, \$1,225.00; Rowe, \$1,025.00; Rowley, \$775.00; Royston, \$1,675.00; Rutland, \$1,700.00; Sandisfield, \$1,975.00; Sandwich, \$1,675.00; Savoy, \$1,400.00; Sheffield, \$1,925.00; Shelburne, \$1,200.00; Sherborn, \$1,075.00; Shirley, \$1,150.00; Shutesbury, \$1,000.00; Southampton, \$1,400.00; Southborough, \$1,200.00; Southwick, \$1,250.00; Spencer, \$2,175.00; Sterling, \$1,800.00; Stow, \$1,125.00; Sturbridge, \$1,650.00; Sudbury, \$1,550.00; Sunderland, \$850.00; Sutton, \$2,100.00; Swansea, \$1,375.00; Templeton, \$1,550.00; Tewksbury, \$1,400.00; Tolland, \$1,025.00; Topsfield, \$950.00; Townsend, \$1,750.00; Truro, \$700.00; Tyngsborough, \$1,000.00; Tyngsboro, \$625.00; Upton, \$1,500.00; Wales, \$625.00; Warren, \$1,500.00; Warwick, \$1,375.00; Washington, \$1,275.00; Wellfleet, \$875.00; Wendell, \$1,200.00; W. Boylston, \$875.00; W. Bridgewater, \$975.00; W. Brookfield, \$1,325.00; W. Newbury, \$925.00; W. Stockbridge, \$900.00; W. Tisbury, \$325.00; Westborough, \$1,425.00; Westhampton, \$1,250.00; Westminster, \$1,925.00; Whately, \$1,000.00; Wilbraham, \$1,075.00; Williamsburg, \$1,075.00; Windsor, \$1,650.00; Worthington, \$1,825.00; Wrentham, \$1,075.00; Yarmouth, \$1,275.00. Total, \$220,750.00.

PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES

In accordance with sections 48A and 48B, chapter 280, Acts of 1925, which amends chapter 159, General Laws, 72 permits were granted during the year.

No permits were granted after September 6, 1931, when Chapter 409 of the Acts of that year, relieving the Department from jurisdiction in such matters, became effective.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33, inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reser-

vation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits. — Licenses were granted to 30 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 287 applications received for permits for the erection of advertising signs, 222 permits have been granted; and 66 permits were granted on applications filed previous to 1931. Sixty applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 17 applications for permits were cancelled.

Of 3,818 renewal applications sent to those whose permits were to expire June 30, 1931, 2,908 were returned to the Department requesting renewal; and 864 requested that permits be cancelled. The number of renewal applications approved, to be in force, until June 30, 1932, was 2,909. The total number of permits in force Nov. 30, 1931, was 3,031.

Receipts and Expenditures. — The total receipts for the year ending Nov. 30, 1931, were \$14,278.20 and the expenditures were \$19,061.97.

The Removal of Signs. — The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 30,000 signs during the year in addition to 5,000 removed by other agents of the Department, under authority of section 30-A, chapter 93, General Laws, from within the highways and from private property.

Injunction. — On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings. — Hearings were given to officials of Lexington, Winchester, Winthrop, Brookline, Belmont, Cohasset, Norwood.

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Abington-Brockton	Corrado & Lepora Const. Co.	\$0 35	-	\$2 75	\$0 75	\$15 00	\$0 07	-
Agawam	Lane Const. Co.	0 25	0 45	2 00	1 25	16 00	09	-
Amesbury, Haverhill, Merrimac	P. J. Holland	0 25	-	4 00	0 80	16 00	0 07	7 50
Amherst	Roy M. Wright	0 33	0 29	0 33	0 75	15 00	0 085	-
Andover-No. Reading & Reading	P. J. Holland	0 35	0 35	1 50	0 80	15 00	0 07	7 00
Arlington	G. Rotundi & Son	0 50	-	3 00	1 00	-	0 10	8 00
Ashburnham	A. Pallatto	0 20	-	10 00	0 60	16 00	-	-
Asby	A. Pallatto	0 25	0 30	15 00	0 60	16 00	0 10	-
Attleboro	Perini & Ampollini	0 30	-	4 00	1 75	16 00	0 07	-
Auburn & Wore.	Carlo Bianchi	0 25	0 20	1 70	0 75	17 00	0 07½	6 50
Avon	Arute Bros.	0 30	-	2 25	0 60	15 00	0 07	-
Barnstable	Lane Const. Corp.	0 10	-	0 10	1 25	20 00	0 15	-
Barnstable	Lane Const. Corp.	0 10	0 10	0 10	0 50	20 00	0 09	-
Barnstable	Lane Const. Corp.	0 34	0 34	0 34	0 70	21 00	0 11	-
Becket	Bertolini Bros.	0 40	0 45	2 50	1 00	16 00	0 09	-
Belchertown	A. H. Newell Co.	0 30	-	1 75	0 85	18 00	0 08½	-
Bellingham, Mendon	G. Bonazolli	0 40	-	2 50	1 00	18 00	0 08	-
Bernardston	Warner & Goodwin	0 26	0 26	4 00	1 00	20 00	0 09	-
Billerica	R. G. Watkins	0 35	-	2 00	0 90	17 00	0 08	-
Blandford	Eng. S. & C. Co.	0 35	0 35	2 00	0 80	20 00	0 10½	-
Boston	J. F. Kennedy Co.	0 50	0 45	6 00	1 00	10 20	0 05	-
Boston-Brookline	McDonough Co.	0 35	0 40	0 35	0 60	15 00	0 07½	-
Bourne	Atwood-Thomas Co.	0 40	0 35	-	-	-	0 20	-
Bourne & Plymouth	A. D. Bridge's Sons	0 38	0 38	0 38	0 50	18 00	0 18	-
Boxford	A. Susi & Co.	0 35	-	2 00	0 80	15 00	0 12	-
Bridgewater	Powers Bros.	0 30	-	5 00	1 00	15 00	0 07	-
Brockton	Powers Bros.	0 30	-	2 00	0 80	15 00	0 07	-
Brookfield	Frank & Frank C. Co.	0 60	-	0 60	0 90	20 00	0 08½	-
Canton-Dedham, Westwood	Lee Const. Co., Inc.	0 29	0 30	2 00	0 70	15 00	0 06½	-
Canton	J. F. Kennedy Co.	0 40	-	2 00	0 80	15 00	0 07	-
Carlisle	A. Pallatto	0 30	0 35	2 00	0 50	15 00	-	-
Charlton	Perini & Ampollini	0 40	-	2 00	0 80	30 00	0 09	-
Cheshire	Lane Const. Corp.	0 40	-	2 00	1 50	18 00	0 09	-
Chester & Hunting-ton	Fitchburg Conc. Const. Co.	0 40	0 40	2 00	1 00	18 00	0 09½	-
Chesterfield & Williamsburg	Warner Bros. & Goodwin	0 50	0 50	2 50	1 00	20 00	0 20	-
Chicopee	D. O'Connell's Sons	0 26	-	2 00	0 90	17 50	0 094	-
Chilmark & W. Tisbury	M. F. Roach & Sons	0 35	0 40	0 35	0 70	20 00	0 23	-
Concord	Greenough C. Co.	1 00	1 00	1 00	1 00	-	0 07	-
Duxbury, Kingston, Pembroke	Eastern Contracting Co., Inc.	0 40	0 25	3 00	0 70	18 00	0 08	-
Concord	Greenough Const. Co.	0 40	-	2 50	1 00	15 00	0 07	-
Danvers	J. H. Watkins	0 40	-	1 75	0 70	-	0 10	-
Dedham & Westwood	J. Iafolla Const. Co.	0 40	-	2 25	0 95	18 00	0 08	-
Dedham Westwood, Needham	J. Iafolla Const. Co.	0 30	0 50	1 50	0 90	18 00	0 09	-
Deerfield & Greenfield	D. O'Connell's Sons	0 50	0 30	4 00	1 00	25 00	0 09	-
Dighton	E. L. Canedy	0 60	0 50	2 00	1 00	12 00	0 08	-
E. Bridgewater	D. J. Roach	0 37	0 37	0 37	1 00	18 00	0 15	-
Easton	Arute Bros., Inc.	0 40	0 40	0 40	1 00	20 00	0 08	-
Egremont	Bertolini Bros.	0 85	-	0 85	0 50	16 00	0 09	-
Erving	Lawton Const. Co.	0 29	0 29	0 29	1 00	15 00	0 08½	-
Erving-Gill	Simpson Bros.	-	-	-	-	-	-	-
Erving-Gill	McChintie Marshall	-	-	-	-	-	-	-
Foxboro	Arute Bros.	0 35	-	3 00	0 80	15 00	0 08	-
Foxboro-Wrentham								
Plainville-N. Attleboro	D. V. Frione	0 36	0 36	2 00	0 50	16 00	0 11	7 00
Foxboro-Wrentham								
Walpole-Sharon	State Const. Co.	0 25	0 30	3 50	0 75	16 00	0 08	6 75
Frammingham	B. Perini & Sons	0 40	-	3 00	1 00	17 00	-	7 25
Frammingham-Natick	B. Perini & Sons	0 27	0 32	2 00	0 75	15 00	0 07½	7 50
Frammingham-Southborough	B. Perini & Sons	0 50	0 40	0 50	1 00	15 00	0 06	7 25
Freetown	A. Thomas Const. Co.	0 35	-	2 00	0 80	-	0 13	-
Gardner	Frank & Frank Const. Co.	0 40	0 50	2 50	1 00	18 00	0 10	-

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931

Broken Stone (ton)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
\$2 10 1 20	\$0 45 -	- 0 45	\$0 50 -	\$0 75 -	\$0 80 -	\$1 05 -	\$1 50 -	- -	\$0 40 0 50	- 1 70	\$50 00 50 00	\$18 00 16 00	\$0 55 0 55	
2 00 2 00	0 40 0 50	0 50 0 40	0 55 0 50	0 60 -	0 80 -	- -	3 00 -	- -	- 0 50	- 1 75	50 00 -	20 00 20 00	0 50 0 40	
1 80 2 20	0 40 -	0 60 -	0 60 -	0 80 -	0 80 0 80	1 00 1 20	1 30 -	2 25 -	- -	- 1 75	50 00 45 00	22 00 -	0 45 0 70	
2 25 2 00	0 60 -	- -	- -	- -	- -	- -	3 50 -	4 00 -	0 50 0 50	- -	- 38 00	16 00 -	0 35 0 32	
2 60 2 00	0 35 0 50	0 35 0 35	0 40 0 45	- -	0 75 -	- -	1 40 -	2 25 -	- -	- -	55 00 40 00	17 00 25 00	0 35 0 40	
3 75 3 75	0 40 0 50	- -	0 50 0 50	0 85 -	1 00 1 10	1 50 -	- -	- -	0 60 0 70	- -	40 00 65 00	- 24 00	0 10 1 50	
2 20 2 35	0 40 -	- 0 40	0 50 0 45	- 0 75	1 00 -	- -	2 00 -	3 00 -	1 50 0 50	1 25 -	60 00 50 00	20 00 20 00	0 70 0 40	
2 60 2 70	0 45 0 45	- 0 40	- 0 50	- -	1 00 -	1 55 -	1 80 -	2 50 -	- 0 60	1 90 1 50	50 00 -	20 00 16 00	0 65 0 26	
1 95 2 70	0 48 -	0 36 -	- -	- -	- -	- -	1 30 -	2 15 -	0 60 0 45	1 50 2 10	50 00 -	- 30 00	0 50 10 20	
1 65 1 25	- -	0 30 0 30	0 30 0 40	0 50 0 70	0 50 0 60	1 00 -	1 00 1 40	2 00 2 30	0 50 0 50	- -	30 00 35 00	10 20 20 00	0 50 0 50	
- -	- -	- 0 60	0 60 0 90	- -	1 00 0 80	1 40 1 10	- 1 73	- 2 50	0 55 -	- -	60 00 60 00	22 00 15 00	0 50 0 35	
2 40 2 10	0 44 0 50	- -	0 50 0 45	- 0 80	0 80 0 70	1 10 1 10	- 1 50	2 25 -	- 0 50	- -	45 00 45 00	- -	0 35 0 40	
3 00 -	0 60 -	- -	0 60 -	- -	- -	- -	- -	- -	- 2 00	- -	45 00 -	- -	0 75 -	
1 95 2 15	0 40 0 50	0 40 0 33	0 45 0 45	0 70 -	0 80 -	1 00 -	1 50 -	2 30 -	0 50 0 60	- -	45 00 45 00	19 00 -	0 42 0 50	
- 3 00	- -	- -	- 0 55	- -	- 1 00	- -	2 25 -	- -	0 45 -	- 1 90	- 60 00	- 50 00	- 18 00	
2 70 -	0 50 -	- -	0 45 -	- -	0 95 -	- -	2 00 -	- -	- -	- -	50 00 -	18 00 -	0 55 0 55	
2 35 -	0 41 -	- -	0 45 -	- -	1 00 -	- -	1 90 -	3 20 -	- -	- -	55 00 -	22 00 -	0 50 0 60	
3 00 1 77	- 0 50	- 0 40	- 0 50	0 75 -	- -	- -	- -	- -	0 50 -	- -	- 40 00	18 00 -	0 60 0 40	
- 2 00	- -	0 60 0 30	- -	- -	1 25 -	1 50 -	- -	- -	0 60 -	- -	50 00 50 00	20 00 -	- 1 00	
2 50 2 00	0 45 0 45	- -	- 0 50	- -	0 90 1 00	1 50 -	1 75 -	2 90 -	0 60 -	- -	50 00 50 00	20 00 -	0 55 0 40	
1 80 -	0 45 -	0 40 -	- -	- -	- -	- -	- -	- -	- 0 45	- 1 90	55 00 -	- -	0 60 0 55	
2 00 1 85	0 45 0 50	0 40 0 35	0 45 0 40	0 70 -	0 80 0 70	- 0 90	1 60 1 30	- 2 25	- 0 45	- -	50 00 -	22 00 17 00	0 50 0 50	
2 00 2 25	0 42 0 50	0 50 0 40	0 55 0 50	- -	1 00 0 85	- -	- 1 50	- -	0 50 0 60	- -	60 00 -	14 08 25 00	0 55 0 50	
- 2 66	- 0 43	- 0 60	- -	- -	1 00 0 90	1 50 1 25	- 2 00	- 3 00	- 0 60	- 2 00	- 55 00	18 00 -	0 37 0 40	
2 40 2 15	0 40 0 45	- -	0 50 0 50	- -	2 00 0 90	1 25 1 75	3 00 2 75	4 00 -	- -	1 25 -	20 00 60 00	25 00 17 00	0 80 0 50	
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- 14 50	- 19 00	- -	
2 35 -	- -	0 45 -	- -	- -	0 90 -	- -	- -	- -	0 50 -	- -	45 00 -	20 00 -	0 50 0 50	
2 75 2 40	0 40 0 40	0 40 0 40	0 45 0 45	0 80 0 80	0 80 0 80	1 25 1 15	1 75 1 65	2 80 2 65	0 50 -	- -	40 00 50 00	22 00 16 75	0 36 0 40	
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	50 00 50 00	- -	0 55 0 55	
2 15 2 50	0 50 0 45	0 40 0 50	0 45 0 50	0 65 0 85	0 75 1 00	- 1 40	1 45 1 80	- -	0 45 0 45	- -	45 00 55 00	16 90 22 50	0 37 0 55	
2 90 -	0 45 -	- -	- -	- -	1 00 1 00	- -	- -	2 75 -	- 0 50	1 90 -	60 00 -	20 00 -	0 55 0 65	

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931 — Continued

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Conc. Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Georgetown	J. E. Watkins	\$0 25	\$0 35	\$1 70	\$0 75	\$17 00	\$0 07½	-
Gill-Greenfield	Kelleher Corp.	0 60	0 30	0 60	1 00	16 00	0 08½	-
Grafton	G. Bonozzoli	0 40	-	2 00	0 90	18 00	0 10	-
Gt. Barrington	A. G. Bianchi Const. Co.	0 30	-	1 00	1 00	20 00	0 09	-
Gt. Barrington	F. T. Ley & Co., Inc.	1 32	0 39	2 00	0 79	10 00	0 14½	\$8 75
Groton & Pepperell	D. & C. Const. Co.	0 30	0 35	0 30	0 50	15 00	0 08	-
Hadley	Lane Const. Corp.	0 35	-	2 00	0 50	18 00	0 08	-
Halifax-Plympton	M. F. Roach & Sons	0 37	0 37	0 37	1 00	20 00	0 15	-
Hamilton	R. G. Watkins & Son	0 30	0 45	2 00	0 90	14 00	0 08	-
Hancock	A. Pallatto	0 65	0 60	3 00	0 50	20 00	0 09	-
Hanson	Arute Bros.	0 35	-	3 00	1 00	18 00	0 08	-
Harwich	Lane Const. Co.	0 20	0 20	0 20	0 75	25 00	0 16	-
Hingham	T. Whalen & Sons	0 40	-	4 00	1 00	14 00	0 07	7 00
Hingham	Bradford Weston	0 30	-	1 00	0 85	18 00	0 07½	-
Hingham-Hull	Waterbury Rd. C. Co.	-	0 65	6 00	1 00	18 00	0 07	-
Hinsdale	Lee Const. Co.	0 35	0 35	1 50	1 00	17 00	0 09	-
Holbrook	Arute Bros., Inc.	0 30	0 30	3 00	1 00	15 00	-	-
Holliston	Perini & Ampollini	0 50	-	6 00	0 50	16 00	0 06	-
Ipswich	R. G. Watkins & Son	0 30	0 35	-	0 80	16 00	0 09	-
Kingston	Guerini Bros.	0 35	-	5 00	0 80	-	0 08½	-
Lakeville-Middleborough	Arute Bros., Inc.	0 35	0 22	3 00	0 60	15 00	0 07	6 00
Ludlow	Adams & Ruxton Co.	0 40	-	3 00	0 80	20 00	0 08½	-
Lynnfield	State Const. Co.	0 30	-	1 75	0 80	15 00	0 08	-
Lynnfield-Wakefield	J. E. Ballentine & Sons	0 44	-	2 75	-	12 00	0 09	-
Mansfield	Arute Bros., Inc.	0 35	-	5 00	1 00	-	0 08	-
Marblehead	G. Rotundi & Son	0 40	-	2 40	0 90	15 00	0 07	-
Marlborough-Northborough	B. Perini & Sons	0 57	0 57	0 57	1 00	18 00	0 08½	8 00
Medway	Arute Bros., Inc.	0 20	0 35	2 50	0 60	20 00	0 07	-
Medway	Arute Bros., Inc.	0 20	0 35	0 20	0 60	15 00	0 06½	-
Melrose	Central Const. Co.	0 45	-	3 00	0 90	25 00	-	*
Mendon	E. L. Sabatinelli	0 55	0 40	1 50	0 90	14 00	-	-
Middleborough	Powers Bros.	0 35	0 35	2 00	0 75	16 00	0 07½	-
Milford	John F. Nagle	0 30	-	2 50	0 75	14 00	0 09	-
Millbury-Worcester	A. I. Savin	0 20	0 27	4 00	0 50	12 00	0 07	6 00
Millis	A. M. Cunstance & Co.	0 35	0 35	3 00	0 90	20 00	0 12	-
Millis	Perini & Ampollini	0 25	-	2 00	1 00	-	0 10	-
Milton	A. DeStefano, Inc.	0 35	-	2 50	0 90	16 00	0 07	7 00
Monson & Palmer	P. J. Holland	0 40	-	4 00	0 45	20 00	0 10	8 50
Monterey	J. DeMichael & Son	0 40	-	1 75	1 00	14 00	0 09	-
Nantucket	M. F. Roach	0 50	-	0 50	0 50	20 00	0 23	-
Needham	M. Pandolph Co.	0 31	0 33	2 50	0 79	12 00	0 07½	-
Newbury-Newburyport	Welch & Moynihan	0 30	-	2 00	-	-	0 08½	-
Newbury & Rowley	M. McDonough Co.	0 30	0 40	2 00	0 80	15 00	0 08	-
No. Andover	M. McDonough Co.	0 30	0 40	1 50	1 00	15 00	0 07½	-
Needham & Wellesley	B. Perini & Sons	0 28	0 28	1 35	0 60	15 00	0 07	-
Northborough	Greenough Const. Co.	0 20	-	5 00	1 00	15 00	0 12	-
Northborough-Shrewsbury	Lane Const. Corp.	0 25	0 25	3 50	1 50	18 00	0 09	7 25
Norwood	Smith Const. Co.	0 45	-	3 50	0 40	8 00	0 06	-
Norwood-Sharon-Walpole	Carlo Bianchi & Co., Inc.	0 24	0 24	1 50	0 60	17 00	0 09	5 65
Pelham	Kelleher Corp.	0 45	-	2 50	1 25	18 00	0 08½	-
Pembroke	Eastern Contr. Co.	0 33	-	4 00	0 75	18 00	0 07	-
Phillipston	Greenough Const. Co.	0 30	-	3 00	1 00	15 00	0 12	-
Plainfield	N. Beacco & Sons	0 55	0 50	1 30	1 50	-	0 16	-
Plainville	Perini & Ampollini	0 30	-	1 00	2 00	-	-	-
Randolph	Ernest Barolone	0 30	0 30	1 00	0 75	14 00	0 11	-
Randolph	Powers Bros.	0 30	-	2 00	0 80	-	0 07	-
Rehoboth-Seekonk-Swansea	Sherry Const. Co., Inc.	0 30	-	2 00	0 75	12 00	0 08	6 75
Revere	M. McDonough Co.	0 60	0 40	4 00	1 00	15 00	0 08	-
Rochester	S. W. Lawrence	0 35	0 35	0 35	1 00	20 00	-	-
Rockland	Smith Const. Co.	0 35	-	3 50	0 65	10 00	0 07	-
Rowley	M. McDonough Co.	0 30	0 35	2 00	0 80	15 00	0 08	-
Royalston	Ralph E. Bull	0 25	-	4 00	1 00	17 00	0 11	-
Salem & Swampscott	M. McDonough Co.	0 25	0 40	1 50	0 60	15 00	0 07½	-
Salisbury	J. E. Watkins	0 25	0 30	1 00	0 65	18 00	0 08	-
Salisbury	J. E. Watkins	0 25	-	1 00	0 70	18 00	0 07	-
Salisbury	J. E. Watkins	0 30	0 45	2 00	0 85	18 00	0 08	-
Salisbury	W. S. Staples	0 25	-	0 80	0 65	14 00	-	-

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931—Continued

Broken Stone (ton)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
1 85	\$0 43	-	-	-	-	-	-	-	\$0 60	-	-	\$50 00	\$20 00	\$0 40
2 10	0 40	\$0 45	\$0 50	\$0 75	\$0 90	\$1 50	\$1 90	\$2 75	0 50	-	-	55 00	17 00	0 56
2 55	-	-	1 00	-	-	-	-	-	-	\$1 70	-	40 00	20 00	0 40
2 60	-	-	-	-	1 00	-	-	-	-	-	-	-	25 00	1 00
3 70	-	-	1 00	-	-	-	-	-	-	-	-	30 00	15 00	0 50
2 00	0 45	-	0 40	-	1 00	-	-	-	-	-	-	50 00	17 00	0 40
1 90	-	0 50	0 50	0 85	-	-	-	-	0 60	-	-	55 00	18 00	0 30
-	0 50	0 45	0 60	-	-	-	-	-	0 55	1 50	-	50 00	20 00	0 37
1 85	0 42	-	-	-	0 70	1 05	-	-	0 50	-	-	50 00	-	0 45
2 50	0 50	-	0 60	-	0 60	-	1 50	2 50	-	-	-	-	20 00	0 65
2 60	-	0 47½	0 50	-	1 00	-	-	3 00	0 50	-	-	50 00	25 00	0 50
-	0 50	0 45	0 55	-	1 00	-	-	-	-	-	-	55 00	-	-
2 00	-	-	0 40	-	-	-	-	-	0 50	-	-	40 00	-	0 40
2 00	0 50	0 40	0 50	-	0 90	-	-	-	0 65	-	-	60 00	20 00	0 50
2 00	0 40	-	-	-	0 80	-	1 40	-	-	-	-	60 00	22 00	0 65
2 60	0 35	-	-	-	1 00	-	1 80	-	-	1 50	-	-	20 00	0 55
-	0 50	-	-	-	-	-	-	-	0 50	-	-	-	20 00	0 35
2 00	-	-	0 35	0 65	-	-	-	-	0 40	-	-	35 00	-	0 50
1 90	0 60	0 35	0 35	-	-	-	-	-	0 50	-	-	32 50	9 00	0 35
2 75	-	0 50	0 50	-	-	-	-	-	-	-	-	50 00	-	0 40
2 00	0 45	-	0 40	0 75	0 75	-	1 25	2 50	-	-	-	45 00	17 00	0 38
2 40	-	0 45	-	-	-	-	-	-	0 55	2 00	-	-	25 00	0 65
1 50	0 50	0 50	0 55	-	0 90	-	1 25	-	1 00	-	-	50 00	15 00	0 50
1 90	-	-	-	-	-	-	-	-	0 75	-	-	-	14 00	0 55
2 60	-	0 50	-	-	0 90	1 25	-	-	-	-	-	50 00	-	0 45
1 50	0 65	0 35	0 40	0 80	-	-	-	-	0 60	-	-	43 00	-	0 90
2 90	0 45	-	0 55	0 85	1 05	1 50	1 90	3 00	0 60	-	-	55 00	24 50	0 57
2 20	0 50	0 40	0 60	-	-	-	-	-	0 50	-	-	40 00	-	0 35
2 00	-	0 30	-	-	-	-	-	-	-	-	-	40 00	-	0 35
-	-	-	0 40	-	-	-	-	-	-	-	-	50 00	-	0 90
-	0 40	-	-	-	-	-	-	-	-	1 45	-	-	18 00	0 45
2 50	0 50	0 40	0 50	-	0 90	-	-	-	0 50	-	-	45 00	-	0 40
2 60	-	-	0 50	0 75	0 80	-	1 50	3 00	-	1 00	-	50 00	20 00	0 45
2 50	0 40	0 50	0 50	-	0 80	-	1 50	2 25	0 50	-	-	50 00	12 00	0 30
-	0 45	0 60	-	-	-	-	-	-	-	-	-	70 00	18 00	0 40
2 15	-	0 35	0 40	-	-	-	-	-	0 50	-	-	50 00	-	0 40
2 10	-	0 40	-	-	-	1 40	-	-	-	-	-	50 00	20 00	0 60
2 60	-	-	1 00	-	-	-	3 00	5 00	0 70	5 00	-	60 00	25 00	0 50
2 65	0 42	-	0 80	-	1 20	-	1 50	2 75	-	-	-	-	16 00	0 65
-	0 70	-	-	-	1 50	-	-	-	-	-	-	-	-	-
1 90	0 40	0 40	0 48	-	0 76	-	-	-	0 50	-	-	45 00	14 00	0 40
1 90	-	-	-	-	-	-	-	-	-	-	-	-	-	0 50
2 00	0 45	0 50	0 50	0 70	1 00	1 20	1 75	3 00	0 50	-	-	45 00	30 00	0 30
2 00	0 45	0 50	0 60	0 70	-	-	-	-	-	-	-	50 00	25 00	0 40
1 63	0 48	0 35	0 42	0 65	0 70	1 25	1 40	2 35	0 50	-	-	37 00	16 50	0 28
-	0 50	-	-	-	-	-	-	-	-	1 40	-	-	15 00	0 40
2 50	0 45	-	0 55	-	0 90	-	2 00	3 00	0 50	-	-	60 00	20 00	0 45
2 00	-	0 30	0 40	-	-	0 95	-	2 10	0 20	-	-	33 00	10 00	0 25
2 50	0 55	0 45	0 50	0 75	0 80	1 00	1 45	2 40	0 60	4 00	-	50 00	17 00	0 24
1 95	0 60	-	-	-	-	-	-	-	0 50	1 50	-	-	22 00	0 50
2 50	0 45	0 45	0 45	-	0 90	-	-	-	-	-	-	48 00	20 00	0 48
-	-	-	-	-	-	-	-	-	-	1 30	-	-	15 00	0 30
-	-	-	-	-	-	-	-	-	0 45	1 75	-	55 00	-	0 68
-	0 40	0 40	-	-	-	-	-	-	-	-	-	-	-	0 35
-	0 60	0 35	0 45	-	-	-	-	-	0 50	-	-	35 00	15 00	0 35
2 00	-	0 40	0 50	0 80	-	1 10	-	2 25	0 50	-	-	45 00	-	0 40
2 35	0 45	0 40	0 45	0 80	0 90	1 25	-	-	0 50	-	-	50 00	16 00	0 45
2 00	-	0 45	0 60	-	0 75	1 25	1 60	3 25	-	-	-	60 00	30 00	1 00
-	0 50	0 50	0 50	-	-	-	-	3 00	-	-	-	50 00	25 00	0 50
2 00	-	0 35	0 40	-	-	-	-	-	-	-	-	35 00	-	0 30
1 75	-	0 40	0 50	0 75	-	-	-	-	0 50	-	-	45 00	30 00	0 30
-	0 55	-	-	-	-	-	-	-	-	1 60	-	-	20 00	0 50
1 25	0 60	0 40	0 40	0 60	0 70	2 00	1 50	2 00	0 50	-	-	35 00	15 00	0 50
2 00	0 45	0 35	0 40	0 60	0 75	1 50	-	-	0 50	-	-	40 00	18 00	0 40
1 95	-	0 40	0 40	-	-	-	-	-	-	-	-	40 00	18 00	0 35
2 20	0 45	-	-	-	-	-	-	-	-	-	-	-	-	0 50
2 00	-	0 33	0 35	-	-	-	-	-	-	-	-	37 00	-	0 50

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931 — *Concluded*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Cals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Saugus	Mogovero-Merrill Co.	\$0 40	\$0 40	\$1 50	\$0 75	\$12 00	\$0 07	—
Savoy	H. W. Flaherty	0 70	0 70	0 70	1 30	18 00	0 18	—
Seekonk	T. J. Quinn	0 35	—	2 00	1 20	15 00	0 06	—
Sharon	Dingley & Lloy	0 38	—	2 30	1 00	16 00	0 07	—
Sheffield	N. H. Rd. Const. Co.	0 40	0 55	1 90	1 00	20 00	0 09	\$8 65
Sherborn	Perini & Ampollini	0 30	—	4 60	0 40	16 00	0 06	—
Shirley	Geo. H. Pierce	0 30	0 20	7 00	1 00	15 00	—	—
Shrewsbury-Worcester	E. D. Ward Co.	0 25	0 20	6 00	1 00	16 00	0 08	5 85
Somerset & Swansea	Sharry Const. Co.	0 30	—	4 00	0 90	12 00	0 09	7 00
Southbridge & Sturbridge	New Haven Road Const. Co.	0 40	0 40	1 70	0 45	19 00	0 09	—
So. Hadley	Warner & Goodwin	0 40	0 30	4 00	1 00	20 00	0 09	—
Spencer	Jas. Chesarone	0 43	—	2 00	1 00	16 00	—	—
Sterling	Perini & Ampollini	0 35	0 35	2 00	1 00	18 00	0 11	—
Stockbridge	Lane Const. Corp.	0 35	0 20	0 35	1 25	19 00	0 08	—
Sunderland	Kelleher Corp.	0 30	0 30	2 00	1 25	18 00	0 08	—
Sutton	Roger T. Fay	0 60	0 25	1 50	1 00	20 00	0 09	—
Topsfield	S. Triconi	0 30	0 40	1 25	0 75	15 00	0 08	—
Topsfield	H. N. Conant	1 00	0 70	10 00	0 70	—	0 15	—
Townsend	P. J. Keating Co.	1 50	0 35	8 00	2 00	—	0 11	—
Townsend	P. J. Keating Co.	1 50	0 54	8 00	—	—	0 11	—
Uxbridge	Lane Const. Corp.	0 20	0 10	5 00	1 00	14 00	0 08	6 00
Uxbridge	W'bury Rd. Const. Co.	0 30	0 30	5 00	1 00	—	0 09	—
Wareham	J. Iafoffa Const. Co.	0 35	0 50	3 00	0 45	20 00	0 09	—
Wayland	W. & L. Eng. Co.	0 50	—	0 50	0 70	16 00	0 07	—
Wenham	Welch & Moynihan	0 30	—	2 00	0 90	18 00	0 07	—
Westborough	Carlo Bianchi & Co.	0 32	0 32	2 50	1 00	18 00	0 08	—
Westborough	Carlo Bianchi & Co.	0 30	0 35	2 50	1 00	18 00	0 08	—
W. Bridgewater	Otis R. Mann	0 45	—	3 00	1 00	18 00	0 12	—
W. Newbury	J. J. Watkins	0 30	0 45	2 00	0 80	15 00	—	—
Weston	P. Salvucci	0 35	0 35	2 25	0 80	15 00	0 08	—
W. Stockbridge	Sermini & Giracca	0 40	0 50	2 00	—	—	0 09	—
Wilbraham	Lane Const. Corp.	0 45	—	0 45	1 25	20 00	0 10	9 00
Williamstown	Ralph E. Bull	0 33	—	4 00	0 90	15 00	0 08	—

* Conc. Surf. in Melrose: Cement Concrete Surface for top course \$8.30
 (Cu. Yd.) High early strength cement concrete for top course 9.55
 Cement concrete surface for bottom course 6.40
 High early strength cement concrete for bottom course 7.30

CONTRACT PRICES DEC. 1, 1930, TO NOV, 30, 1931 — *Concluded*

Broken Stone (ton)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
\$1 30	\$0 56	\$0 35	0 40	-	-	-	-	-	\$0 70	-	\$45 00	-	\$0 45	
-	0 45	-	-	-	-	-	\$1 90	\$3 25	-	-	-	-	0 80	
1 65	-	0 40	0 45	-	-	-	-	-	0 55	\$1 70	45 00	\$25 00	0 40	
2 33	0 45	0 40	-	-	\$0 85	-	1 50	-	0 50	-	48 00	20 00	0 48	
2 65	0 50	-	0 65	-	1 00	-	2 00	3 25	0 55	-	75 00	30 00	0 55	
2 00	0 45	0 35	0 40	-	-	-	-	-	-	-	35 00	-	0 40	
-	0 55	-	0 50	-	-	-	-	-	0 55	-	50 00	15 00	0 25	
2 65	0 45	0 40	0 45	-	0 75	-	1 50	2 50	-	-	45 00	13 50	0 30	
2 25	0 40	0 40	0 50	\$0 80	0 90	1 50	1 85	3 00	0 50	-	50 00	15 00	0 50	
3 00	-	-	0 50	-	0 90	-	1 50	2 75	-	1 70	70 00	25 00	0 65	
2 00	0 45	-	-	-	-	2 00	-	8 00	0 50	2 00	-	25 00	0 50	
-	0 65	-	-	-	1 00	-	1 80	-	-	1 90	-	20 00	0 48	
-	0 45	-	-	-	1 00	-	1 75	2 75	-	1 80	-	22 00	0 65	
2 50	0 40	-	0 50	-	-	-	-	-	-	-	60 00	19 00	0 45	
2 00	0 55	-	-	-	-	-	-	-	-	2 00	-	20 00	0 50	
2 25	0 70	-	0 45	-	-	-	-	-	-	1 35	60 00	25 00	0 40	
1 80	0 55	-	0 50	1 00	1 00	-	-	-	0 50	-	50 00	20 00	0 50	
-	-	-	-	-	-	-	-	-	-	-	60 00	15 00	1 00	
-	0 60	-	-	-	-	-	-	-	0 50	-	-	18 00	0 50	
-	-	-	-	-	-	-	-	-	0 50	-	-	20 00	0 50	
2 70	0 45	-	0 50	-	0 85	-	1 85	2 75	-	-	55 00	16 00	0 25	
2 70	0 50	-	-	-	-	-	-	-	-	-	-	16 00	0 40	
2 70	-	-	0 45	0 75	0 90	-	-	2 25	0 60	-	48 00	20 00	0 65	
2 00	0 50	-	0 50	0 70	0 90	1 00	-	-	-	-	50 00	20 00	0 42	
1 75	-	0 40	0 50	-	0 70	-	-	-	-	-	50 00	18 00	0 50	
2 75	0 45	-	-	-	0 90	-	1 50	2 50	-	1 75	-	25 00	0 55	
2 80	0 50	-	0 55	-	0 90	-	1 50	2 50	-	1 80	-	25 00	0 55	
1 75	-	-	-	-	1 00	-	-	-	0 60	-	-	25 00	0 60	
-	0 45	-	-	-	0 85	-	2 00	-	0 60	-	-	-	0 50	
2 20	0 50	0 40	0 50	1 00	0 80	1 25	-	4 00	0 50	-	50 00	-	0 50	
2 60	0 60	-	-	-	-	-	-	-	-	2 00	-	15 50	1 00	
2 50	0 50	0 50	0 70	-	-	-	-	3 50	0 50	-	60 00	24 00	0 60	
2 30	0 55	-	0 45	-	0 95	-	1 70	-	-	2 00	52 00	15 00	0 55	

REGISTRY OF MOTOR VEHICLES

The 1931 statistics do not indicate an increase in the number of registration applications handled, except in the case of the commercial vehicles. The other classes of applications handled indicate some decrease, although the volume of work handled by the Registry throughout the year was not affected by the numerical decrease in the count of applications received, as the use made of the Registrar's records and files by letter, personal calls at the counters, and of the telephone information lines, was constantly on the increase.

There has been a noticeable decrease in the number of court abstracts received, which directly affects the revenue received from fines. The number of abstracts received in 1931 was 2,300 less than the previous year, which year, in turn, was about 5,000 less than the peak year of 1929. It is fair to assume that the decrease in court abstracts received indicates an increase in the number of persons who are complying with the motor vehicle laws, rather than any less activity in the matter of law enforcement.

The Registrar of Motor Vehicles in continuing his activities for greater safety on the highways has had the co-operation of the various safety committees, police and other officials and organizations of the Commonwealth.

In this connection, the Department was directed and authorized to make a study of the problem of reducing loss and damage, injury and death resulting from the use and operation of motor vehicles, and for this purpose there was appropriated a sum not exceeding \$20,000. In conducting this study, Dr. Charles S. Slocombe was appointed as Expert Assistant to the Registrar, and this work was started at the Registry on June 1. The investigation is now well under way.

A few of the outstanding figures of the work of the Registry during the year, together with a comparison with the previous year, follow:—

	1930	1931
Motor Vehicle certificates of registration issued	1,013,118	1,009,876
Licenses to operate issued	982,795	1,024,304
Examinations of applicants for licenses	123,001	112,763
Licenses and registrations revoked and suspended	52,954	58,306
Licenses revoked for driving under influence of liquor	5,052	5,535
Total number of applications handled	2,104,342	2,115,193
Gross receipts from fees	\$6,462,618 51	\$6,430,015 98

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a .37% decrease in passenger registrations, with a very slight increase in commercial registrations, the motor cycle registrations continuing to decrease as they have for several years past.

	1905	1910	1915	1920	1925	1930	1931
Passenger cars	4,889	31,360	90,580	251,570	663,858	893,558	890,228
Commercial vehicles	—	—	12,053	52,968	100,480	114,918	116,580
Motor cycles	553	3,358	9,520	15,142	10,333	4,642	3,068
Totals	5,442	34,718	112,153	319,680	774,671	1,013,118	1,009,876

EXAMINATIONS FOR LICENSES

The appointment system of examining operators adopted in 1930, having proved satisfactory, was continued throughout 1931. The examination has continued to include not only an actual demonstration on the highways but a reading test, an eye test and a thorough test of the applicant as to his knowledge of the motor vehicle law.

In this connection, the so-called "Questions and Answers" book was carefully revised and edited in such a way that it is believed that operators could learn the information required more readily by having related items and questions grouped, and the examiner, in asking questions, asks at least one question from each group instead of asking questions at random as was the custom under the old system when questions asked might be of minor importance, at least so far as giving any

indication of the operator's general knowledge of the motor vehicle law requirements and operating information was concerned.

The number of persons examined decreased and also the number of persons who failed decreased, both of which items plainly indicate that the requirements of the new examination are such that more and more the public are not presenting themselves as applicants for licenses until they have the required qualifications. Examinations for licenses were held at 55 points in the State with the results as tabulated below:—

	1930	1931
Operators passed	88,592	87,950
Operators unfit	19,307	15,519
Restriction removal, passed	12,166	8,306
Restriction removal, unfit	1,601	934
"Competency" passed	1,241	699
"Competency" unfit	94	58
Total examinations	123,001	113,466

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records, none of which are kept at the branches. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses, and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Commonwealth Pier, Boston:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Boston:					
Counter	218,000	—	131,000	90,000	439,000
Mail	170,000	—	484,000	10,000	664,000
Examination	—	32,000	—	7,500	39,500
Pittsfield	24,000	3,300	17,000	7,100	51,400
Springfield	77,000	9,800	49,000	21,000	156,800
Greenfield	15,000	1,700	8,200	7,400	32,300
Worcester	57,000	7,300	41,000	19,000	124,300
Fitchburg	17,000	1,300	11,000	5,400	34,700
Frammingham	11,000	300	2,100	1,400	14,800
Lawrence	34,000	4,600	26,000	11,000	75,600
Lowell	27,000	3,400	20,000	8,000	58,400
Fall River	22,000	4,400	20,000	7,500	53,900
New Bedford	22,000	3,100	21,000	7,700	53,800
Lynn	63,000	8,700	42,000	20,000	133,700
Quincy	32,000	6,900	26,000	14,000	78,900
Brockton	41,000	3,500	28,000	14,000	86,500
Hyannis	10,000	2,100	5,200	3,500	20,800
Nantucket ¹	700	—	—	—	700
Oak Bluffs ¹	2,300	—	—	—	2,300
Totals	843,000 ²	92,400	931,500	254,500 ²	2,121,400

A new branch office was opened in Frammingham on August 19, 1931, this office being classified as a sub-office in the Boston district. Plans for a new sub-office in Northampton, coming within the jurisdiction of the Springfield office, were not completed in time for the opening of this new office until after the close of the fiscal year.

¹ Licenses and miscellaneous applications included in counter figures.

² This figure includes approximately 167,000 number plate reissues.

³ Does not include reissues (see Miscellaneous).

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

Notices of Cancellation of Insurance Policies Received and Intents to Revoke Mailed

	1930	1931
(a) For non-payment of premiums	70,855	85,298
(b) For other reasons	14,635	20,918
Total	85,490	106,216
Revocations	28,959	35,105
Sets of number plates returned	94,290	93,279

It is interesting to note that the receipt of 106,216 notices of cancellation from insurance companies required the mailing of the same number of notices of intent to revoke; that 19,323 of these cases were adjusted by the filing of certificates by a new company; 47,627 cancellations were adjusted by the filing of reinstatement notices from the same company; 4,161 by the surrender of registration plates prior to the effective date of cancellation; and 35,105 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of 93,279 plates to the various insurance companies covering the registrations involved.

Particular attention should be directed to the fact that of the 35,105 revocations only about 11,000 persons returned their plates and certificates promptly upon receiving notice from this office. The return of approximately 14,000 sets of plates and certificates were secured through the efforts of the police departments and the examiners and inspectors of the Registry, leaving approximately 10,000 sets of plates not returned, although the registrations involved had been revoked and the insurance cancelled. Practically all of these revocations were due to non-payment of premium cancellation notices.

AIRCRAFT

The statistics of the Aviation Section show a decrease in the number of persons killed in airplane accidents and also the number of persons injured, although peculiarly enough the number of fatal airplane accidents increased slightly. The statistics of this section for the fiscal year also show a great increase in the number of pilots holding permits issued by the Department and also a very great increase in the number of airplanes registered and for which permits have been issued.

The work of the Engineering Section has been mainly in connection with re-checking airports for improvements made and this section has also been engaged in a detailed study of the various landing fields throughout the State, so that another step leading towards greater safety in aviation has been taken.

A marked increase in the number of investigations has been made by this section and also the personnel has been able to check a very much larger number of airplanes for permits and for repairs, as well as a general periodic check-up throughout the year.

The same co-operation has been extended to various organizations throughout the United States, as well as to certain foreign governments, as has been extended in previous years and there has been an increase in both the number and field of inquiries.

The following statistics, which give a summary of the work, indicate a strict enforcement of the law, which tends for greater safety, both to the public at large and in particular to the flying personnel and the persons who use aircraft.

In general, an increase in activity is shown by the statistics below:—

	1930	1931
Pilots' licenses issued	39	31
Airplanes registered	43	49
Pilots' license fees received, including examination fees	\$335	\$248
Airplane registration fees received	\$645	\$687

	1930	1931
Duplicates issued	0	6
Certified copies issued	0	1
Duplicate fees received	0	\$6
Fees received for certified copies	0	\$1
Pilots examined for licenses and amendments	45	22
Aircraft examined for registrations, permits and repairs	361	436
Pilots' permits issued	338	358
Aircraft permits issued	231	298
Suspensions of licenses, registrations and rights to fly	53	37
Court prosecutions for violations of aircraft laws	5	6
Surveys of bodies of water for seaplane bases	1	0
Surveys of fields for airports	26	10
Re-check surveys of fields for airports	10	24
Buildings surveyed for air marking	15	0
Flying fields approved	14	0
Flying fields disapproved	14	0
Investigations made by aircraft inspectors	650	763
Rulings made by Registrar	3	0
Airplane accidents: —		
Crack-ups	50	69
Non-fatals	17	12
Fatals	1	3
Unknown	1	0
Persons injured	39	31
Persons killed	5	4
Planes damaged	53	67
Planes washed out	20	18
Caused by motor failure	11	18
Structural failure	7	8
Improper operation and other reasons	54	58
Ground accidents: —		
Crack-ups	20	15
Non-fatals	3	3
Fatals	0	1
Persons injured	3	3
Persons killed	0	1
Planes damaged	23	21
Planes washed out	2	0

INSPECTION OF MOTOR VEHICLE EQUIPMENT

Under authority of regulations of the Registrar, which became effective during the previous year, a second periodic inspection was made of the equipment of all motor vehicles registered in the Commonwealth. An inspection was required, in each case, within fifteen days after the date of registration. The results were very satisfactory and effected a general improvement of equipment, especially brakes. Very few complaints were received from motorists and it was apparent that the work was performed honestly and, for the most part, efficiently.

As was expected, however, the results proved that one inspection per year, although helpful, cannot be expected to secure the desired results. In drawing up the regulations, however, it was felt that it would be wiser to start with fewer inspections than were actually desirable in order to permit a proper organization of official inspection stations, and to supply experience which could be used to advantage in deciding upon a future policy. It is hoped, if business and other conditions warrant, to hold two inspections during the year 1932.

During the year, a total of 870,000 cars were inspected. Adjustments or repairs were found necessary in about 49% of the cases reported. This figure showed a considerable improvement over the conditions which existed at the time of the first periodic inspection in 1930, when 70% of the vehicles inspected were found in need of repair.

Analysis of the results of the Second Equipment Inspection Period may be summarized as follows:—

Total number of cars inspected	870,000
Total O. K. without repair or adjustment	443,000—51%
Total requiring replacement or adjustment	427,000—49%

Repairs or adjustments on the 427,000 vehicles requiring correction of defects in equipment were as follows:—

Lights only	243,000
Brakes and lights	104,000
Brakes only	69,500

Horn, mirror, muffler and other minor items of inspection required adjustment or repair on 19,500 vehicles.

Brakes, Lights and Overloads

Fifteen men were regularly assigned to equipment work. Besides their duties in connection with the approval of the official inspection stations and adjusters, these men did considerable road work in tagging or reporting overloaded commercial vehicles and vehicles operated with defective brakes, lights, or other equipment. There were 4,338 motor vehicles tagged for defective brakes, 23,958 for defective lights, and 1,361 cases reported to the Registrar for immediate action because of the dangerous condition of equipment. In addition, equipment inspectors reported 3,966 cases of improper operation of motor vehicles for warning or action by the Registrar, and examined 246 applicants for licenses. More than 360 cases of overloading of commercial vehicles to an extent that rendered their operation dangerous to the public or destructive to road surfaces were reported to the Registrar for appropriate action.

Headlamps and Rear Lamps

The Registrar approved no new automobile headlamps or devices during 1931. Extensions of approval of certificates already in force were made in the cases of five approved headlamps. Approvals were granted to one new motorcycle headlamp and eight motor vehicle tail lamps. All of these were of the type in which the tail light was combined with stop signals.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1931 numbered 793, a decrease of two or 0.2 per cent as compared with the record of the previous year. The record of classified fatalities, injuries and collisions in the years 1930 and 1931 is as follows:—

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1930	1931	1930	1931
Pedestrians by autos	438	434	15,413	15,499
Pedestrians by motor cycles	3	3	32	27
Pedestrians near street cars	4	9	32	59
Occupants of autos	281	281	26,688	31,142
Occupants of autos at railroad crossings	22	22	31	38
Occupants of motor cycles	16	14	589	458
Bicycle riders	13	20	812	822
Occupants horse-drawn vehicles	9	2	257	279
Coasters (on sleds)	7	7	333	434
Coasters (on wheels)	2	1	92	79
Totals	795	793	44,279	48,837
	Children Killed		Children Injured	
	1930	1931	1930	1931
Boys	116	138	7,163	7,886
Girls	45	61	3,689	4,159
Totals	161	199	10,852	12,045

Number of Collisions

	1930	1931
Collision with pedestrian	14,619	15,169
Collision with automobile	17,145	19,629
Collision with horse-drawn vehicle	282	287
Collision with railroad train	25	31
Collision with street car	327	360
Collision with fixed object	1,624	1,846
Collision with bicycle	801	809
Non-collision accident (car overturned)	525	746
Collision with motor cycle	542	502
Collision with sled	319	383
Collision with animal	92	85
Totals	36,301	39,847
In the daytime	22,447	25,018
After dark	13,854	14,829
Totals	36,301	39,847

ACCIDENT REPORT LETTERS

As provided by Section 26, Chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received in 1931 was 44,994 as compared with 38,374 received in 1930. Under the requirements of Section 29, Chapter 90, General Laws, 19,824 similar reports of accidents were received from Police Departments throughout the State in 1931 as against 16,970 received in 1930.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,712	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,016,916	6,168	1,023,084	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535

INVESTIGATIONS AND PROSECUTION BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation on the classification of reports:

	1930	1931
Accidents, fatal	761	746
Accidents, non-fatal	4,916	5,853
General reputation	3,893	4,437
Miscellaneous	7,037	7,879
Totals	16,607	18,915

	1930	1931
Complaints filed	6,426	21,206
Garages inspected	6,010	5,911
Headlight and other violations reported	37,294	50,269
Prosecutions conducted	594	831
Amount of fines	\$28,334	\$35,815

REVOCATIONS AND SUSPENSIONS

	1930	1931
Licenses suspended	11,633	17,018
Licenses revoked	3,740	3,880
Rights suspended	4,014	5,236
Certificates suspended	9	8
Certificates revoked	31,471	35,577
Certificates and licenses suspended	55	21
Certificates and licenses revoked	1,841	1,882
Certificates revoked and rights suspended	148	173
Rights in Massachusetts suspended	43	46

Totals	52,954	63,841
Resulting from investigations	12,429	19,466
Resulting from Court convictions	9,096	9,277
Resulting from Police complaints	1,856	1,627
Resulting from Judges' complaints	33	35
Resulting from State Police complaints	676	229
Resulting from Insurance cancellations	28,864	33,207
Totals	52,954	63,841

Character of Offenses

	1930	1931
Reckless and endangering	2,034	2,084
Liquor convictions	4,302	4,613
Going away after accidents	425	384
Without authority	734	822
Racing	2	0
Improper person	5,357	5,967
Improper person, liquor	750	922
Improper operation	7,661	13,548
Two overspeeds	362	172
Three overspeeds	24	12
Insurance cancellations	28,864	33,207
Insurance convictions	351	351
Improper equipment, miscellaneous	412	307
Improper equipment, brakes	187	400
Improper equipment, lights	637	191
Fatal accidents	772	780
Other offenses	80	81

Totals	52,954	63,841
Formal hearings	5,789	7,325

Court recommendations adopted: —

	1930	1931
Liquor	0	0
Reckless and endangering	79	53
Going away after accidents	14	17
Without authority	0	1

Totals	93	71
Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	4,215	4,113

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1930	1931
Number of courts forwarding abstracts	95	95
Total abstracts received	57,851	57,937
Number of abstracts recording convictions	41,165	38,869

Offenses

(Analysis of convictions, not including appeals)

Overspeeding	14,283	12,890
Reckless	21	26
Operating under the influence of liquor	3,115	3,934
Using auto without authority	821	1,068
Endangering lives	1,885	2,220
Not stopping after causing injury	556	662
Without license	2,878	2,895
Without registration certificate	1,024	902
Unregistered vehicle	250	262
Improper display or no register number	176	132
Refusing to stop on signal	453	245
Unlighted lamps	688	820
Not signalling	2	0
Operating within 8 ft. of street car	202	249
Violation of Metropolitan Park rules	1,096	710
Operating after suspension or revocation of license	372	456
Larceny	145	139
Miscellaneous	3,057	2,328
No reflector	7	—
Racing	2	—
Operating after registration certificate revoked	11	8
No rear light	89	32
Not displaying lights	127	50
Improper lights	583	534
Brakes not as required by law	399	252
Violation of Insurance Law	262	316
Not slowing down approaching pedestrian	39	41
Not slowing down at intersecting way	7,242	5,942
Violation of law of road	1,344	1,723
Perjury — making false statements on license application, falsely impersonating or conspiring to obtain a license	9	21
Loaning a license to another	3	3
Allowing intoxicated person to operate	5	2
Attempted larceny	19	7
Totals	41,165	38,869

USED CAR SECTION

(Motor Vehicle Identification)

The Used Car Section indexes cars reported stolen, lists the sales of used cars, investigates the history of cars sold bearing obliterated, defaced or changed engine and makers' numbers, and advises the owners of cars registered under incorrect engine and makers' numbers how to find and report the correct numbers on the cars.

The work of this section is summarized in the following tables: —

Dealers

	1930	1931
Total number of first class dealers reporting	1,327	1,255
Total number of second and third class dealers reporting	460	501
Total number making reports to this office	1,787	1,756

Reports

Approximate number of individual reports received daily . . .	300	230
Approximate number of dealers' reports received daily . . .	1,000	1,085

Motor Vehicles Stolen

Number stolen in Boston	4,879	5,336
Number stolen in Massachusetts (including Boston	8,389	10,720
Number reported stolen from various sources throughout the country, including Massachusetts	25,300	27,486
Number recovered through information furnished by this office	344	355

Engine and Serial Numbers

Engine numbers assigned to cars	24	29
Certificates issued authorizing the replacement of engine numbers	847	701
Certificates issued authorizing the replacement of serial numbers	1,552	1,135
Certificates issued authorizing the replacement of both engine and serial numbers	10	18
Total number of authorized certificates issued	2,409	1,854

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the department attended meetings of the Eastern Conference of Motor Vehicle Administrators held in New York City on October 22nd and 23d. Members present represented seventeen states, including the District of Columbia and several Canadian provinces. Registrar Morgan T. Ryan was elected to membership in the Association and former Registrar Major George A. Parker was elected to honorary membership.

The Conference directed its attention chiefly to matters of safety on the public highways. Mechanical power brakes, the hazards of gasoline distribution, gasoline advertisements emphasizing speed, reciprocity between states particularly in respect to motor trucks, motor vehicle headlamps and headlamp bulbs with a reflective coating on the front of the bulb glass, were also subjects of considerable discussion by the Conference.

ANALYSIS OF RECEIPTS

The fees received for the year 1931, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:—

Certificates of registration:

Passenger cars (including taxicabs)	885,953	\$2,670,643	90
Commercial cars	116,580	1,248,241	70
Busses	4,275	98,974	45
Trailers	650	34,927	50
Motor cycles	3,068	4,172	00
Manufacturers or dealers (including repairers)	3,360	9,999	00
Manufacturers or dealers additional cars (including repairers)	20,031	59,703	00

Licenses to operate:

Original licenses	90,179 at \$2 00	—	180,358	00
Renewal licenses	934,125 at 2 00	—	1,868,250	00
Examinations	83,733 at 2 00	\$167,466		
Re-examinations	29,030 at 1 00	29,030		

Total examinations	112,763		196,496	00
Copies of certificates and licenses furnished	43,233 at \$1.00		43,233	00
Duplicate number plates furnished	7,535 at \$1 00		7,535	00

Lens approval applications	11 at 50 00	550 00
Miscellaneous receipts, auto lists, process fees, etc.		6,932 43
Total amount of fees		\$6,430,015 98
Motor vehicle fees rebated (deducted)		65,334 83
Net fees		\$6,364,681 15
Court fines received by the Treasurer and Receiver General		570,290 03
Total receipts credited Highway Fund account, 1931		\$6,934,971 18

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1931 was \$1,571,-077.24, which was 24.6 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,363,893.94 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1931

Payrolls

Personal services:		
Regular payroll	\$926,142 18	
Overtime	13,543 44	
		\$939,685 62

Expenses

Supplies:		
Books, maps, etc.	\$1,264 09	
Typewriter supplies	3,977 89	
Adding machine repairs and supplies	103 47	
Other supplies	4,218 35	
Stationery	24,954 74	
Typewriter repairs	104 22	
Other repairs	533 66	
		\$35,156 42
Equipment and furniture:		
Typewriter machines	\$6,131 28	
Other machines	4,229 34	
Desks	605 24	
Bookcases, tables, etc.	291 16	
Filing cabinets	4,572 26	
Chairs	993 10	
Dictograph	2,455 33	
Partitions (Boston)	470 00	
Branches—counters, safes	699 10	
Electric fans	386 55	
Headlight and brake testing expense	68 00	
Uniforms	7,966 34	
		28,867 70
Traveling expenses:		
Officials	\$2,378 76	
Employees	41,943 62	
Aviation	6,515 69	
Automobiles (hired)	23 35	
Automobiles (owned by employees)	117,640 29	
Automobiles (owned by state):		
Maintenance of 10 automobiles	3,854 83	
Purchase of 1 automobile	528 30	
		\$172,884 84
Other services and expenses:		
Expressage	\$2,681 00	
Postage	81,039 80	

Printing:		
Other reports	1,789	73
Other printing	10,037	13
Telephone	7,716	02
Premium on bonds of employees	388	58
Rent	46,000	00
Cleaning and janitor services	1,260	00
Rat extermination	262	25
Labor	572	10
Number plates	191,041	23
Direct mail lists	11,500	00
Sundries	288	02
Towels and soap	911	37
Water and ice	1,110	00
Branch offices:		
Rent, telephone, lighting, fuel and heating	\$27,658	06
Labor and services	5,564	82
Supplies and express	3,867	42
		<hr/>
		\$393,687 53
	<i>Publicity for Safety Work</i>	
Labels	\$765	00
Posters	13	33
Sundries	16	80
		<hr/>
		\$795 13
Total		<hr/>
		\$1,571,077 24
	<i>Summary</i>	
Payrolls		\$939,685 62
Expenses		630,596 49
Publicity for Safety Work		795 13
		<hr/>
		\$1,571,077 24
Special investigation of accident reduction		9,826 16

RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

THE COMMONWEALTH FLATS AT SOUTH BOSTON

Commonwealth Pier 5

The usual work of maintenance and repair has been continued at the pier during the fiscal year. Work has been done upon the sprinkler system, the steam lines, the elevators, the roofs, the Ogden and Kinnear doors, the heating plant, and repairs have been made to gangways, floating fender logs, fittings and platforms.

The additional offices at the pier, begun in 1930 for the use of the engineering force, were completed Dec. 19, 1930, under contract of Aug. 26, 1930, with Carl S. Helrich, at a contract cost of \$18,377.96. A force of engineers and assistants numbering 335 engaged upon work relating to highways and bridges now occupy engineering offices at this pier.

On Feb. 10, 1931, a contract was made with the Massachusetts Electric Construction Company for furnishing and installing sixty-five wall outlets with connections, to facilitate electric service, on the first floor of the pier. The work was completed Mar. 13, 1931, at a contract cost of \$1,469.66.

A contract was made on May 5, 1931, with the Bay State Dredging and Contracting Company to furnish, drive, fit and secure new fender piles and foundation piles, to furnish and place new fender capping and to do other necessary timber work where required in the timber foundations of the platforms, at the pier. This work was completed July 28, 1931, at a contract price of \$1,347.87.

On July 7, 1931, a contract with the Gunite Construction Company was made for furnishing labor and equipment for the reconstruction and repair by the gunite process of the reinforced beams and slabs comprising the concrete platforms of the pier. The work was completed Nov. 18, 1931, at a contract cost of \$13,416.47.

Development of Land South of Summer Street

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. This Company also used section J of Storehouse No. 2 on D Street until October 1, 1931, and section K until Nov. 1, 1931. The Economy Grocery Stores Corporation has occupied section H of Storehouse No. 2 during the year under the lease of May 24, 1929, for a term of five years, and since Oct. 1, 1931, has used section J. Section K has been unoccupied since Nov. 1, 1931. The remaining sections of this storehouse are in use by the Department.

The work of repairing roofing, flashing, downspouts and sash at these warehouses, included under a letter contract with L. B. Renfrew Gray, dated Mar. 19, 1930, was completed Dec. 19, 1930, at a contract cost of \$7,484.87.

On July 15, 1931, a contract was made with the Klayman Construction Company for rebuilding about 281 linear feet of timber platform on the westerly side of Storehouse No. 1 and about 660 linear feet on the easterly side. The work was completed Sept. 26, 1931, at a contract cost of \$4,287.36.

Northern Avenue Sea Wall

The work of furnishing and placing stone riprap along the toe of the sea wall on the northerly side of Northern Avenue, to protect the pile foundations, under contract of Nov. 18, 1930, with William R. Farrell, was completed Dec. 4, 1930, at a contract cost of \$2,920.30.

Grasselli Wharf

The work under contract of Oct. 28, 1930, with Maurice M. Devine for painting, by spraying under compressed air, the exterior of the piershed at this wharf, was completed Dec. 11, 1930, at a contract cost of \$716.93.

This property has been occupied during the year by the Atlantic Radio and Marine Co., Inc., under the terms of a lease dated Oct. 1, 1930.

Staples Wharf

A contract was made on Dec. 2, 1930, with Maurice M. Devine for replacing and fitting fender piles, main piles, girder caps and stringers, and for repairs to the

deck planking at this wharf. The work was completed Feb. 17, 1931, at a contract cost of \$3,491.00.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston is now occupied by the City of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. Negotiations are now in progress for the lease to the City of two additional parcels, one northeasterly of the areas included under leases of 1928 and 1930, and the other southeasterly of that leased in 1930.

The use of these areas by the City is, however, subject to certain rights of occupancy and use granted by previous agreements to the Federal Government. The lease to the War Department under date of June 30, 1922, contains an option for annual renewal to June 30, 1932. A supplementary agreement under date of Dec. 27, 1926, extended this option to June 30, 1937. To the Navy Department the lease of June 16, 1924, gives the option of continuing by annual renewals the use of the area to June 30, 1932.

Reclamation of Flats

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1931, approximately 2,250,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1931, approximately 41,000 cubic yards were deposited upon flats northerly of Governors Island. The Commonwealth has reclaimed about 150 acres of land at East Boston.

The city of Boston, under license dated Oct. 14, 1930, authorizing dredging and filling, has reclaimed for the extension of the Boston Airport an area of approximately 38 acres.

By Chapter 271 of the Acts of 1931, the City of Boston was authorized "for the purpose of improving, extending and developing the Boston Airport" to borrow outside the statutory limit of indebtedness, from time to time, within a period of two years "such sums as may be necessary, not exceeding in the aggregate \$1,250,000." Under date of Oct. 20, 1931, license was granted by the Department to the City to build bulkheads, to fill solid and to dredge for the improvement, extension and development of the airport.

Commonwealth Pier 1, East Boston

Repairs to floating fender logs, fittings, and to the roof of the pier shed have been carried on during the year.

On Oct. 27, 1931, a contract was made with Michael Solimando for renewing fender piles, splicing foundation piles, replacing girder caps, wales, fender capping and deck planking in the platforms of the pier in locations designated by the engineer. This work is now in progress.

During the year the east and west docks of the pier have been used by the Eastern Steamship Lines, Inc., for steamers not in service.

JEFFRIES POINT DREDGING

On Jan. 28, 1931, hearing was held upon a petition of William H. Hearn for dredging in front of the Jeffries Yacht Club at Jeffries Point, East Boston.

A contract was made on June 9, 1931, with the Trimount Dredging Company to dredge the basin approximately 180 feet long and 70 feet wide to a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material 69 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 1, 1931, at a contract cost of \$1,395.87.

GRAND JUNCTION WHARVES OR CUNARD DOCKS

The dredging between the Cunard docks and the main ship channel under contract of July 15, 1930, with the Bay State Dredging and Contracting Company was completed Mar. 21, 1931, at a contract cost of \$31,979.04.

On Aug. 11, 1931, the contract of July 7, 1931, with the Bay State Dredging and Contracting Company was extended to include the dredging of an area between the outer ends of Commonwealth Pier 1 and Pier 2 of the Grand Junction Wharves and the main ship channel, to a depth of 35 feet at mean low water, at a contract price of 38.5 cents per cubic yard. As funds sufficient to complete the entire project were not available, work was discontinued Sept. 22, 1931. The dredging carried out was done at a contract cost of \$3,160.47.

DREDGING OPPOSITE U. S. IMMIGRATION STATION

The dredging of a shoal area in front of the U. S. Immigration station at East Boston, under contract of Sept. 2, 1930, with the Bay State Dredging and Contracting Company was completed Mar. 26, 1931, at a contract cost of \$42,752.60.

EAST BOSTON — ABANDONED HULKS

Chapter 465 of the Acts of 1931, Special Session, making appropriations for the employment of additional persons as a measure of relief during the present unemployment emergency, provides for an expenditure by the Department of Public Works of \$65,000 for removing abandoned hulks or wrecks lying along the water front of East Boston and in Chelsea Creek. This Act was approved Nov. 12, 1931.

These wrecks are for the most part hulks of dismantled vessels, grounded and abandoned years ago, constituting in many cases a menace to navigation and considered by the residents of East Boston unsanitary and dangerous to the health of the community.

The Department is preparing plans and specification for the work of removing these hulks.

ATLANTIC AVENUE WATERFRONT DREDGING

The dredging of an area between the main ship channel and India, Central and Long Wharves under contract of July 15, 1930, with the Bay State Dredging and Contracting Company was completed Dec. 23, 1930, at a contract cost of \$20,097.

Hearing was held Jan. 28, 1931, upon petitions of the proprietors of Lewis, Long and Commercial Wharves and of the Eastern Steamship Lines, Inc., for a continuance of dredging along this waterfront from Fort Point Channel to Battery Wharf.

On July 7, 1931, a contract was made with the Bay State Dredging and Contracting Company for dredging in the following locations: An area 75 feet wide and 600 feet long in front of Foster's Wharf and Rowes Wharf to a depth of 20 feet at mean low water; an area off Pier 1 of the New York, New Haven and Hartford Railroad Company to a depth of 25 feet at mean low water; two areas off Central Wharf to a depth of 25 feet at mean low water; an area extending from Long Wharf to Union Wharf to a depth of 25 feet at mean low water. The contract prices for this work were: for dredging and disposing of dredged material, 38.5 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work was completed Sept. 22, 1931, at a contract cost of \$66,933.02.

NEPONSET RIVER, BOSTON

The dredging in Neponset River, in front of property of the Frost Coal Company, under contract of Nov. 5, 1930, with the Bay State Dredging and Contracting Company, was completed Dec. 16, 1930, at a contract cost of \$1,186.22.

SAVIN HILL BAY AND DORCHESTER BAY, DREDGING COULTER'S BEACH

The placing of sand and gravel at Coulter's Beach, Freeport Street, under contract of Nov. 25, 1930, with Henry R. Worthington, for the purpose of filling depressions and providing an even slope of beach, was completed Dec. 15, 1930, at a contract cost of \$4,106.52.

This work was made necessary by the dredging carried out in accordance with the provisions of Chapter 317 of the Acts of 1929.

HOUGH'S NECK, QUINCY, DREDGING

The dredging of a channel and basin at Hough's Neck under contract of Nov. 25, 1930, with the Bay State Dredging and Contracting Company, was completed Jan. 23, 1931, at a contract cost of \$14,987.14.

REPAIRS TO SEA WALLS, HULL AND QUINCY

An inspection made in the summer of certain sea walls on Boston Harbor showed the necessity for repairs to concrete masonry walls built by the Commonwealth in Hull and Quincy. A letter contract for this work was made Aug. 26, 1931, with P. J. Tuffey. Work under this contract, completed Oct. 28, 1931, included repairs to the sea wall at Hough's Neck, Quincy, at a cost of \$1,071.18, and to walls at Allerton Point, Pemberton Point and Stony Beach in Hull at a cost of \$543.40.

During these repairs it became apparent that a section of the wall at Stony Beach should be rebuilt and further repairs made to that wall and to the sea wall at Pemberton Point. On Nov. 10, 1931, a contract was made with Bradford Weston to construct about 55 linear feet of new sea wall and to place concrete footing under and in front of about 245 linear feet of existing sea wall at Stony Point, and to place concrete footing under and in front of about 175 linear feet of existing wall at Pemberton Point. The contract prices for this work are: for furnishing all labor and materials and constructing the new concrete sea wall, \$10 for each cubic yard of concrete measured in the completed work; for furnishing all labor and materials and constructing the concrete footings under and in front of existing walls, \$12 for each cubic yard of concrete measured in the completed work. This work is now in progress.

WINTHROP HARBOR DREDGING

Hearing was held Jan. 28, 1931, on a petition of the Winthrop Yacht Club and others for dredging a basin at the Yacht Club and a channel leading southerly to deep water. Statement was made at this time as to the interest of the town in the deposit of the dredged material for filling at the playground in process of construction at Point Shirley.

A contract was made on May 19, 1931, with the Saybrook Dredging Company to dredge the basin at the Winthrop Yacht Club approximately 900 feet long and 300 feet wide to a depth of 6 feet at mean low water and to deposit the dredged material as filling upon an area largely flats approximately 550 feet long and 350 feet wide belonging to the town at Point Shirley. The contract prices for this work are: for dredging and disposing of dredged material in disposal area specified, 55 cents per cubic yard measured in situ; for removing and disposing of boulders, \$15 per cubic yard. This work was completed Sept. 29, 1931, at a contract cost of \$31,851.05. Toward this cost a contribution of \$368 was made by the Winthrop Yacht Club, and a contribution of \$15,124 by the Town of Winthrop.

On Nov. 10, 1931, a contract was made with the Trimount Dredging Company to furnish labor, tools and equipment and to remove boulders from the basin of the Winthrop Yacht Club, Winthrop, at the following contract prices: for towing equipment and crew to the site of the work and returning same after completion, including all incidental expenses, the lump sum of \$95; for rental of floating plant, including lighter or dredge, tow boat, scows and all other necessary equipment including the crew to operate the equipment, supplies, repairs and all other incidental expenses, \$89 for each day of eight hours the equipment is used on the work; for each hour worked by the diver and tender including equipment and all incidental expenses connected therewith, \$5 for each hour employed on the work. This work is now in progress.

COTTAGE PARK CHANNEL, WINTHROP

Hearing was held Jan. 28, 1931, on petition of the Cottage Park Yacht Club for the dredging of a basin and a channel from the Clubhouse to the deeper channel in Boston Harbor.

On May 19, 1931, a contract was made with the North Atlantic Dredging Company to dredge to a depth of 7 feet at mean low water a channel approximately

120 feet wide and 900 feet long, and a basin approximately 250 feet wide and 500 feet long, at the following contract prices: for dredging and disposing of dredged material on the shore, 50 cents per cubic yard, measured in situ; for removing and disposing of boulders, \$20 per cubic yard.

This work was completed July 12, 1931, at a contract cost of \$15,585.00. Toward this cost a contribution of \$250 was made by the Cottage Park Yacht Club and one of \$5,000 by the town of Winthrop.

PLEASANT PARK YACHT CLUB

On Oct. 20, 1931, a contract was made with the Bay State Dredging and Contracting Company for dredging a basin about 120 feet long and 55 feet wide to a depth of 7 feet at mean low water at the Pleasant Park Yacht Club. The contract prices for this work are: for dredging basin and disposing of dredged material, \$1.08 per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard.

This work was completed Oct. 23, 1931, at a contract cost of \$1,499.04.

HAYWARD'S CREEK

In order to allow the widening of a part of East Howard Street in Quincy, to decrease traffic congestion, the Department on Oct. 14, 1931, conveyed to the city of Quincy a parcel of land near East Howard Street, to be used for highway purposes. This deed was given under the provisions of Chapter 135 of the Acts of 1927.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$175,000 was made during 1931, with the following condition:—

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$30,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Annisquam River, Gloucester; Chatham Shore, Chatham; Cherry Island Bar, Revere; Cohasset Harbor, Cohasset; Connecticut River, West Springfield; East Bay, Barnstable; Lagoon Pond, Oak Bluffs and Tisbury; Lewis Bay, Barnstable; Long Beach, Rockport; Manchester Harbor, Manchester; Maraspin or Mill Creek, Barnstable; Marshfield Sea Walls, Marshfield; Newburyport Breakwater, Newburyport; Pinney's Harbor, Bourne; Rockport Harbor, Rockport; Scituate Sea Walls, Scituate; Smith's Cove, Gloucester; South River, Scituate and Marshfield; Waquoit Bay, Falmouth and Mashpee.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Cherry Island Bar, Revere; Connecticut River, West Springfield; Lagoon Pond, Oak Bluffs and Tisbury; Lewis Bay, Barnstable; Newburyport Breakwater, Newburyport; Pinney's Harbor, Bourne; Smith's Cove, Gloucester; South River, Scituate and Marshfield.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and in the tables of the Appendix accompanying the present report. These reports

show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1931 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

ALLENS HARBOR, HARWICH

The work of building a timber fence about 100 feet long, of placing stone riprap in front of the fence and sand as back filling against it, and of despositing stone riprap along the easterly bank northerly of the east jetty, was completed Dec. 29, 1930, at a contract cost of \$2,783.92.

Hearing was held Jan. 28, 1931, on petition of E. Donald Dodge for dredging Allens Harbor. At this hearing the Selectmen asked, also, for an extension of the riprap protective work.

On Mar. 17, 1931, a contract was made with the Trimount Dredging Company for dredging a channel 60 feet wide on the bottom and 5 feet deep at mean low water, through the sand bars southerly of jetties at the entrance to Allens Harbor, and the removal of shoals between the jetties and extending into the basin, to a depth of 4 feet at mean low water. The contract prices for this work were: for dredging the channel through the sandbars southerly of the end of the west jetty and disposing of excavated material on marsh and flats, \$1.00 per cubic yard; for dredging the channel between the jetties and disposing of excavated material on marsh and flats, 40 cents per cubic yard. This work was completed Apr. 15, 1931, at a contract cost of \$4,000. Toward this cost a contribution of \$2,000 was made by the town of Harwich.

A letter contract was made June 16, 1931, with George W. Starbuck for rebuilding about 50 linear feet of the outer end of the westerly jetty for the lump sum of \$650. This work was completed July 3, 1931.

The extension of the protective work requested by the Selectmen has been provided for under contract of Nov. 24, 1931, with George W. Starbuck to furnish material and construct a timber fence about 75 feet long, to furnish and place about 70 tons of stone riprap in front of the timber fence, about 50 cubic yards of sand as backfilling against the completed fence, and about 80 tons of stone riprap in strengthening sections of the existing timber fence, at the following contract prices: for each linear foot of fence measured in place, including the furnishing of all labor and materials and the performance of all excavation, backfilling and incidental work, \$7.75; for each ton of riprap furnished and placed, including all grading and incidental work, \$4.00.

This work is now in progress. Toward the cost of this project a contribution of \$600 has been made by the town of Harwich.

Amount expended during the year, \$8,063.69. Total expenditure to Dec. 1, 1931, \$34,796.96.

CENTERVILLE RIVER, BARNSTABLE

The work of dredging a channel in Centerville River under contract of July 22, 1930, with the Trimount Dredging Company, was completed Sept. 1, 1931, at a contract cost of \$23,746.00.

During the dredging in this river a large number of stumps and logs were found within the limits of the channel. These obstructions were unexpected and not provided for by the terms of the contract. The contractor was able, however, to remove many of them and to excavate around those remaining, to a depth of 5 feet below mean low water.

After the completion of the work about 74 pieces of stump protruding above this plane interfered with the safe use of the channel and caused complaints to the Department.

Under a letter contract of Oct. 28, 1931, with Louis A. Byrne, these stumps were removed at a contract cost of \$1,575.00. This work was completed Nov. 25, 1931.

The dredging in this river has provided for boating a channel 5 feet deep at mean low water and 50 feet wide on the bottom, extending about 5,700 feet easterly from the foot bridge. In addition, considerable dredging has been done by owners of

property along the river. Many of these owners are now constructing piers at their premises to facilitate their use of the improved channel.

Amount expended during the year, \$35,810.93. Total expenditure to Dec. 1, 1931, \$44,093.52.

CHATHAM SHORE PROTECTION

Hearing was held Apr. 29, 1931, upon petition of the Selectmen of Chatham for the placing of riprap at the foot of Lighthouse Bluff and along the shore where severe erosion took place during the storms of Mar. 4. and 8, 1931.

On June 23, 1931, a contract was made with Joseph W. Nickerson for furnishing and placing about 5,000 tons of stone riprap at the foot of the bank east of Chatham Light, at a contract price of \$3.79 for each ton of 2,000 pounds in place in the completed work. Under this contract work was completed Aug. 28, 1931, at a contract cost of \$18,757.01. Toward this cost the town of Chatham made a contribution of \$10,500.

At the completion of the contract heavy stone riprap and chips had been placed for the protection of the bank for a distance of 1,300 feet.

Amount expended during the year, \$19,813.19. Total expenditure to Dec. 1, 1931, \$19,813.19.

COHASSET HARBOR, COHASSET

Hearing was held Jan. 28, 1931, on petition of the Selectmen of Cohasset for dredging in Cohasset Harbor.

A contract was made on Sept. 8, 1931, with the Bay State Dredging and Contracting Company to dredge four areas in Cohasset Harbor, one to a depth of 8 feet, the others to a depth of 6 feet at mean low water. The work was done by the hydraulic method at the following contract prices: for dredging and disposing of the excavated material on the marsh and flats by hydraulic process, 48 cents per cubic yard measured in place; for removing and disposing of boulders, \$20 per cubic yard.

This work was completed Oct. 19, 1931, at a contract cost of \$18,374.40. Toward this cost a contribution of \$5,000 was made by the town and of \$4,000 by the Cohasset Yacht Club and by individuals interested in the dredging.

Amount expended during the year, \$16,371.33. Total expenditure to Dec. 1, 1931, \$113,435.77.

EAST BAY, BARNSTABLE

Hearing was held on Jan. 28, 1931, on petition of the Selectmen of Barnstable for dredging in East Bay.

A contract was made on May 26, 1931, with the Trimount Dredging Company for dredging a channel at the entrance of Centerville River to a width of 50 feet on the bottom and to a depth of 5 feet at mean low water, and for dredging the entrance channel to East Bay to a width of 60 feet on the bottom and a depth of 6 feet at mean low water. The contract prices for this work were: for dredging and disposing of excavated material upon the marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 35 cents per cubic yard, measured in place; for removing and disposing of boulders, \$10 per cubic yard. The dredging was completed Aug. 27, 1931, at a contract cost of \$7,094.15. Toward this cost a contribution of \$4,000 was made by the town of Barnstable.

The dredging done in the entrance to East Bay and in the channel extending easterly from the basin in the bay to the footbridge, a distance of 2,400 feet, has provided a connection with the channel in Centerville River, so that boats may now pass from a point near the head of Centerville River, through the dredged channel and into Nantucket Sound. The minimum depth of this channel is 5 feet at mean low water and its minimum width 40 feet on the bottom.

GREEN HARBOR, MARSHFIELD

The building of the timber fence on the westerly side of the west jetty at the harbor entrance, under contract of Oct. 14, 1930, with Owen W. Duffy was completed Jan. 3, 1931, at a contract cost of \$4,069.75.

On Apr. 28, 1931, contract was made with the Trimount Dredging Company for dredging by hydraulic process a channel and basin to a depth of 6 feet at mean low water at Green Harbor, Marshfield, at the following contract prices: for dredging channel and basin and disposing of the excavated material on land and marsh, including the construction of the necessary dikes, 41.4 cents per cubic yard; for removing and disposing of boulders, \$20 per cubic yard. This work was completed Oct. 5, 1931, at a contract cost of \$34,500.28.

A contract was made Apr. 28, 1931, with Thomas Whalen & Sons, Inc., for the rebuilding of the two stone jetties at the entrance to Green Harbor, the construction of about 450 linear feet of timber fence westerly of the westerly jetty, and of about 196 linear feet of concrete wall at the inshore end of the easterly jetty. The contract prices for this work were: for each ton of riprap or stone chips furnished and placed in the completed work, including all incidental work, \$3.20; for each linear foot of timber fence measured in place, including the furnishing of labor and materials, and the performance of all excavation, backfilling and incidental work, \$6.00; for each cubic yard of concrete measured in place in the completed work, including all forms, excavation and incidental work, \$14. This work was completed July 23, 1931, at a contract cost of \$23,406.18.

Toward the cost of the dredging and of the rebuilding of the jetties, under the two contracts of Apr. 28, 1931, a contribution of \$30,000 was made by the town of Marshfield.

In July requests were received from the Selectmen and from individuals for additional dredging in the harbor. On Oct. 6, 1931, a contract was made with the Trimount Dredging Company for dredging by hydraulic process a channel 6 feet deep at mean low water and 75 feet wide on the bottom, at the following contract prices: for dredging channel and disposing of the excavated material on the upland and marsh out of tide water within areas approved by the Department, 38 cents for each cubic yard measured in place; for removing and disposing of all boulders, \$20 for each cubic yard.

This work was completed Nov. 14, 1931, at a contract price of \$19,760. Toward the cost of this dredging a contribution of \$5,000 was made by the town and one of equal amount by individuals interested in the improvement.

During the year the dredging carried on has provided a channel six feet deep at mean low water and 75 feet wide on the bottom, extending from the 6-foot contour in Cape Cod Bay for a distance of about 2,200 feet to a small anchorage basin, and a channel of the same depth and width extending from the anchorage basin northerly for a distance of about 1,200 feet to a point about 700 feet southerly of the dike across the head of the river. The jetties at the river entrance have been reinforced by the construction of a timber bulkhead and a concrete wall, and by the placing of riprap.

Amount expended during the year, \$79,476.21. Total expenditure to Dec. 1, 1931, \$158,513.16.

GUN ROCK — GREEN HILL SEA WALL, HULL

An inspection made in September of the sea wall showed a section of the structure at Green Hill broken at the top for a length of about 40 feet to a depth varying from two to three feet. A letter contract for the repair of the wall was made with Frank H. Barry on Oct. 6, 1931. The work was completed Oct. 19, 1931, at a contract cost of \$376.23.

Amount expended during the year, \$319.80. Total expenditure to Dec. 1, 1931, \$78,259.13.

HERRING RIVER, HARWICH

The work of dredging a channel in Herring River from the 6-foot contour in Nantucket Sound to the steel highway bridge over the river, under contract of Aug. 26, 1930, with the Trimount Dredging Company, was completed Jan. 10, 1931, at a contract cost of \$52,852.50. Contributions amounting to \$25,600 were made in 1930 toward the cost of this dredging.

The dredging of an anchorage basin below the Lower County Bridge, under contract of Nov. 25, 1930, with the Trimount Dredging Company, was completed Jan. 7, 1931, at a contract cost of \$8,000. Toward this cost a contribution of \$4,000 was made in 1930.

In January of this year additional dredging in the entrance channel of the river was requested. A contract was made on Feb. 17, 1931, with the Trimount Dredging Company for dredging the entrance channel of Herring River to depths of from 8 feet to 10 feet at mean low water and to widths varying on the bottom from 40 feet to 100 feet. The contract price for dredging the channel and disposing of the excavated material on marsh and flats adjacent to the work, including the construction of the necessary dikes, was thirty cents for each cubic yard. This work was completed Mar. 2, 1931, at a contract cost of \$7,583.40. Toward this cost a contribution of \$2,000 was made by William H. Doble and one of an equal amount by the town of Harwich.

The dredging in Herring River has provided a channel 3,050 feet long, 6 feet deep at mean low water and 60 feet wide on the bottom, extending from the 6-foot contour in Nantucket Sound to the Lower County Bridge, and a channel of the same depth and width, 3,750 feet long, extending from the Lower County Bridge to the main highway bridge over the river. A basin dredged southerly of the Lower County Bridge affords anchorage for boats drawing not more than 6 feet of water.

Amount expended during the year, \$45,383.82. Total expenditure to Dec. 1, 1931, \$131,384.96.

LAKE ANTHONY, OAK BLUFFS

Hearing was held Jan. 28, 1931, on petition of the Selectmen of Oak Bluffs for dredging in Lake Anthony.

A contract was made Apr. 28, 1931, with the Bay State Dredging and Contracting Company for dredging two areas in Lake Anthony to a depth of 7 feet and 8 feet, respectively, at mean low water, at the following contract prices: for dredging and disposing of dredged material, 42 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work was completed June 24, 1931, at a contract cost of \$19,012.14. Toward this cost a contribution of \$10,000 was made by the town of Oak Bluffs.

The completion of this dredging provides in Lake Anthony an anchorage area of about 13 acres with a depth of 7 feet at mean low water, and a channel and basin with an area of 3.6 acres and a depth of 8 feet at mean low water.

Amount expended during the year, \$21,880.27. Total expenditure to Dec. 1, 1931, \$97,411.51.

LONG BEACH, ROCKPORT

In March request was received from the Selectmen of Rockport for assistance in the protection of Long Beach where, during the storm of Mar. 4, 1931, a timber bulkhead about 3,300 feet long, owned by the town, was completely destroyed. An examination was made of the beach and an estimate of the cost of a timber bulkhead and concrete sea wall.

By Item 625e of Chapter 460 of the Acts of 1931, an appropriation of \$25,000 was made for protective work at this beach upon condition that a contribution of an equal amount be made by the Town.

On Aug. 17, 1931, the contribution of \$25,000 was received from the Town of Rockport. A contract was made Aug. 18, 1931, with George W. Nicoll Co., Inc., for building a concrete sea wall about 3,300 feet long at Long Beach, at a contract price of \$11.20 for each cubic yard of concrete measured in place in the completed work. This work was completed Nov. 15, 1931, at a contract cost of \$48,463.52.

Amount expended during the year, \$43,125.74. Total expenditure to Dec. 1, 1931, \$43,125.74.

MANCHESTER HARBOR, MANCHESTER

Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Manchester for dredging in Manchester Harbor.

On Apr. 28, 1931, a contract was made with the Bay State Dredging and Contracting Company for dredging four areas in Manchester Harbor, one to a depth of 6 feet below mean low water, and three to a depth of 8 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material, 56 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The work was completed Aug. 25, 1931, at a contract cost of \$12,495.84. Toward this cost a contribution of \$6,500 was made by the town of Manchester.

There is now available in Manchester Harbor a main channel 8 feet deep at mean low water extending from the 6-foot contour in the bay to the railroad bridge. The outer portion of the channel for a distance of 3,500 feet has a width of 100 feet on the bottom, and the inner portion for a distance of 2,000 feet has a width of 75 feet.

A section of channel 8 feet deep at mean low water, 50 feet wide on the bottom and 600 feet long has been provided on the easterly side of Bow Bell Ledge. With vessels entering the harbor the use of this channel is optional, as it connects at each end with the wider channel. Anchorage basins adjacent to the main channel have been dredged to a depth of 6 feet at mean low water over an area of 20.5 acres.

Amount expended during the year, \$13,398.56. Total expenditure to Dec. 1, 1931, \$189,694.04.

MARASPIN OR MILL CREEK, BARNSTABLE

Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Barnstable for dredging in Maraspin Creek.

On May 5, 1931, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel in Maraspin Creek to a width of 60 feet on the bottom and a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 40 cents per cubic yard, measured in place; for removing and disposing of boulders, \$20 per cubic yard. This work was completed July 3, 1931, at a contract cost of \$11,574. Toward this cost a contribution of \$5,000 was made by the town of Barnstable.

This dredging has provided a channel 2,250 feet long, 6 feet deep at mean low water and 60 feet wide on the bottom, extending from the 6-foot contour in Barnstable Bay to a point near the town landing. This channel affords access for the fishing boats to the cold storage plant and greatly facilitates the handling of fish at the plant.

Amount expended during the year, \$12,138.52.

MARSHFIELD SEA WALLS

The work of placing about 300 tons of heavy stone riprap and 100 tons of stone chips to protect about 125 feet of bank and timber bulkhead at Brant Rock, under contract of Nov. 25, 1930, with Philip B. Oakman, was completed Dec. 10, 1930, at a contract cost of \$2,500.

By the storm of Mar. 4, 1931, a section of the granite sea wall southerly of Brant Rock was undermined and seriously damaged. Under a letter contract dated Apr. 22, 1931, with Philip B. Oakman, a concrete foundation was placed under this wall, the stone work dislodged by the sea was replaced, and additional riprap deposited in front of the wall. The work was completed June 6, 1931, at a contract cost of \$5,938.19. Toward this cost a contribution of \$1,560.04 was made by the town of Marshfield, and one of equal amount by the County of Plymouth.

The necessity for repairing damages caused by severe storms along the Marshfield shore was brought to the attention of the Legislature by County and Town officials during the winter. To provide for protective work in Marshfield, Chapter 407 of the Acts of 1931 was passed in June, 1931.

This act authorizes an expenditure of not exceeding \$200,000 for the construction of a sea wall and the placing of riprap, upon condition that no work is done until the Town assumes liability for damages, and pays into the State Treasury the sum of \$66,666 and until the County so pays the sum of \$33,334. The act requires also an acceptance by vote of the County Commissioners of Plymouth County and by the Town of Marshfield in town meeting.

Certified copies of the votes of the Town and of the County Commissioners accepting the provisions of the Act were filed with the Department in July and August, the payments into the State treasury were made by the Town and County in August, and a certified vote of the Town of Marshfield submitted, assuming liability for damages.

Under the provisions of this act various contracts have been made for protective work along the Marshfield shore.

Under letter contract of Aug. 27, 1931, with Philip B. Oakman, the sea wall at Brant Rock easterly of Ocean Avenue was repaired by constructing concrete foot-

ings, a concrete face and replacing sections of the wall with concrete. The work was completed Nov. 20, 1931, at a contract cost of \$18,786.61.

A contract was made Sept. 15, 1931, with Raymond A. Bergesson to furnish and place about 4,000 tons of heavy stone riprap and 3,000 tons of stone chips to protect about 2,000 linear feet of bank, timber bulkhead and concrete sea wall at Brant Rock, east of Ocean Avenue and south of Shepard Street, at the following contract price: for each ton of riprap and chips furnished and placed in the completed work, including the removal of remains of old timber bulkheads, storing of material and other incidental work, the sum of \$2. This work is now in progress.

On Sept. 15, 1931, a contract was made also with Louis B. Cadario and Sons to build about 4,716 linear feet of concrete sea wall with return walls 25 feet long, concrete apron and wing walls, about 650 linear feet of riprap and 82 concrete jetties, on the beach south of Fieldston. The contract prices are: for furnishing materials and constructing the concrete sea wall and jetties, including all excavation, back filling and incidental work, \$7.48 for each cubic yard of concrete measured in the completed work; for furnishing materials and constructing concrete apron and wing walls, including all excavation, back filling and incidental work, the lump sum of \$1,250 for the completed work; for furnishing and placing heavy stone riprap, including all excavation and incidental work, \$3 for each ton of 2,000 pounds in place in the completed work. This work is now in progress.

After work was begun upon the wall at Fieldston it was found necessary to drive piling for foundations at sections where soft peat was encountered. The driving of the necessary piling, under letter contract of Sept. 30, 1931, with George W. Starbuck was completed Nov. 25, 1931, at a contract cost of \$3,809.04.

Requests were made as the work went on for an opening in the wall at the end of Beach Avenue. This opening and ramp were built by the contractor for the lump sum of \$1,570.

Amount expended during the year, \$103,997.79. Total expenditure to Dec. 1, 1931, \$130,425.45.

MENAMSHA INLET, CHILMARK AND GAY HEAD

An inspection made in September at Menamsha inlet and basin showed considerable damage by the March storm to the outer beach separating the waters of Vineyard Sound from the basin. A section of sea wall was broken, riprap washed down, filling back of the wall carried away and erosion was advancing rapidly on the westerly side of the entrance channel where the old timber bulkhead has disintegrated.

On Nov. 3, 1931, a contract was made with Merritt-Chapman and Scott Corporation for furnishing and placing about 2,900 tons of stone riprap and chips and about 340 cubic yards of sand fill in three separate locations at Menamsha Inlet in Chilmark and Gay Head, at the following contract prices: for each ton of riprap or stone chips furnished and placed in the completed work, including all incidental work, \$4.19; for furnishing and placing 340 cubic yards of fill, including all incidental work, the lump sum of \$300. This work is now in progress.

Amount expended during the year, \$105.05. Total expenditure to Dec. 1, 1931, \$117,097.16.

NEW BEDFORD STATE PIER

The larger portion of this pier has been, since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

By Item 625a of Chapter 460 of the Acts of 1931, an appropriation of \$50,000 was made for building an addition and for improvements to the State Pier. Under the provisions of this Act two contracts were made in July for work at the pier.

On July 14, 1931, a contract was made with Frank C. Taylor for furnishing all

necessary material and labor for the construction of a pile and timber platform about 565 feet long and 40 feet wide on the north side of the State Pier at New Bedford, at unit prices. The work was completed Nov. 23, 1931, at a contract price of \$49,078.03.

A contract was made on July 14, 1931, with P. J. McNally and Sons for the construction of an opening 14 feet wide and 15 feet high through the Immigration Shed at the New Bedford State Pier to provide an approach to the timber platform, and for laying concrete pavement in the adjacent driveway and yard. The contract prices for this work were: for furnishing all labor, materials and equipment necessary to make alterations to the immigration shed, the lump sum of \$839; for concrete pavement laid in driveway and approach, \$2.26 per square yard of concrete measured in place in completed work. This work was completed Sept. 1, 1931, at a contract cost of \$2,062.79.

The completion of the pile and timber platform adds materially to the facilities at the pier for handling cargoes, particularly cotton, which may now be unloaded directly from vessel to truck and taken from the pier to mill or warehouse. This direct loading was not practicable at the pier before the construction of this addition.

Although the platform was not completed until Nov. 23, 1931, requests were made for docking of vessels before that date and the first cargo was actually discharged Nov. 7-8. Since that time the platform has been used to its full capacity.

Minor repairs to the pier have been carried on during the year.

Amount expended for operation, maintenance and improvement during the year, \$46,728.86.

Income during the year, \$6,000.00.

Total expenditure for operation, maintenance and improvement to Dec. 1, 1931, \$99,917.41.

OAK BLUFFS SEA WALLS

The Selectmen of Oak Bluffs immediately after the storm of Mar. 8, 1931, called the attention of the Department to the damage resulting to a section of concrete wall easterly of the entrance to Lake Anthony. A length of wall of about 60 feet was undermined by this storm and moved forward. As this structure affords protection to the inshore end of the easterly jetty at the entrance to Lake Anthony, its condition was a menace to the security of other improvements by the Commonwealth at Lake Anthony.

On Sept. 1, 1931, a contract was made with Joseph W. Nickerson to straighten about 50 linear feet of concrete sea wall, to place a concrete footing under the wall and a concrete capping on top of about 150 linear feet of sea wall at the entrance to Lake Anthony. The contract prices for the work were: for furnishing labor and equipment and straightening the existing concrete sea wall, the lump sum of \$200; for furnishing each bag of Portland cement used in the concrete, including all form work, sand, gravel, excavation and backfilling, and all incidental work in connection with placing the concrete footings and cap on the wall, \$3.33. This work was completed Oct. 3, 1931, at a contract cost of \$1,288.91.

Amount expended during the year, \$1,396.85. Total expenditure to Dec. 1, 1931, \$141,077.77.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$4,000 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The work of building concrete and gravel walks and setting granite curbing on the driveway to the State Pier, under contract of Nov. 25, 1930, with Domenik Romano was completed Dec. 15, 1930, at a contract cost of \$1,158.79.

A letter contract was made June 9, 1931, with the Bay State Dredging and Contracting Company for driving four piles on the outer face of the State Pier and fitting a section of timber fender. This work was completed June 15, 1931, at a contract cost of \$200.

On Nov. 17, 1931, a letter contract was made with the Beattie Corporation for repairs to the canopy over Plymouth Rock. This work is now in progress.

Amount expended during the year, \$4,713.89. Total expenditure to Dec. 1, 1931, \$40,400.97.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

ROCKPORT HARBOR, ROCKPORT

Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Rockport, and others, for dredging two areas in Rockport Harbor.

A contract was made May 19, 1931, with the Bay State Dredging and Contracting Company for dredging two areas in Rockport Harbor, one north of "T Wharf" approximately 150 feet wide by 300 feet long with an approach channel 35 feet wide and 150 feet long; the other an irregular area south and east of "T Wharf," approximately 100 feet wide by 900 feet long. The contract prices for this work were: for dredging and disposing of dredged material, 50 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The work was completed Aug. 4, 1931, at a contract cost of \$16,088.50.

Toward the cost a contribution of \$4,250 was made by the town of Rockport. Amount expended during the year, \$17,177.18. Total expenditure to Dec. 1, 1931, \$32,897.46.

SCITUATE SEA WALLS

First Cliff. Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Scituate and others for repairs at First Cliff at the inshore end of the jetty.

Under letter contract of June 16, 1931, with John J. Johnson, 200 tons of stone riprap were placed at the northerly end of First Cliff and at the inshore end of the southerly jetty at the entrance to Scituate Harbor at a contract cost of \$863.84. Toward this cost a contribution of \$500 was made by the town of Scituate.

North Scituate. Under letter contract of Apr. 7, 1931, with Frank H. Barry, repairs were made to the section of sea wall off Surfside Avenue at a contract cost of \$729.81. Toward this cost a contribution of \$437.08 was made by the town of Scituate.

Third Cliff. The riprap placed in previous years for the protection of the shore at Third Cliff was damaged by the storm of Mar. 4, 1931. In some of the areas affected, additional riprap is required, but in others adequate protection could be provided by returning the dislodged stone to its former position. Under a letter contract with Frank H. Barry, dated July 3, 1931, the work of replacing the dislodged riprap within certain areas was completed Aug. 15, 1931, at a contract cost of \$1,003.87.

Work Under Special Legislation

Hearings were held Jan. 28, 1931, upon petitions of the Selectmen of Scituate for the extension of sea walls at Sand Hills and Cedar Point and for the building of a new sea wall along the beach near the wreck of the old pilot boat "Columbia."

By Chapter 424 of the Acts of 1931 the Department was authorized to expend for the extension of sea walls and other shore protection in Scituate a sum not exceeding \$75,000, upon condition that no work should be begun until the town voted to accept the provisions of the Act, assumed liability for damages and paid into the treasury of the Commonwealth \$25,000, and until the County Commissioners of Plymouth County voted to accept the Act and paid into the treasury of the Commonwealth, \$12,500.

In July and August the Selectmen and the County Commissioners filed certified copies of the votes accepting the provisions of the statute, and paid the required sums into the State treasury. The Town of Scituate also voted to assume all liability for damages.

Under authority of this act work has been carried out for the construction, extension and repair of sea walls in Scituate, and for riprap protection of the shore, as follows:

Cedar Point

On Aug. 11, 1931, a contract was made with Crowley and Downey for building 284 linear feet of concrete sea wall at Cedar Point at a contract price of \$9.90 for

each cubic yard of concrete measured in place in the completed work. This work was completed Oct. 7, 1931, at a contract cost of \$3,406.89.

Humarock Beach

On Aug. 11, 1931, a contract was made with the Atwood-Thomas Construction Company for building about 1,385 linear feet of concrete sea wall with a return wall 25 feet long and twenty-six concrete jetties, at Humarock Beach, at the following contract prices: for furnishing materials and constructing the concrete sea wall and jetties, including all incidental work, \$9.20 for each cubic yard of concrete measured in the completed work; for furnishing and placing 4-inch yellow pine plank for openings in concrete wall, including the cost of materials, labor and all incidental work, ten cents for each board foot of lumber in place in the completed work. This work was completed Nov. 10, 1931, at a contract cost of \$25,114.16.

North Scituate

A contract was made Aug. 18, 1931, with Thomas Joseph McCue to build 8 concrete jetties and about 600 linear feet of concrete sea wall in two sections with an opening in one of the walls for the passage of vehicles. The contract prices for this work were: for furnishing material and constructing concrete sea walls and jetties, including all excavation, backfilling and incidental work, \$10 for each cubic yard of concrete measured in the completed work; for furnishing lumber for and placing the same in the opening in the concrete wall, including all fitting and incidental work, 5 cents for each foot board measure of lumber in place in the completed work.

This work was completed Nov. 28, 1931, at a contract cost of \$10,659.13.

Sand Hills

On Aug. 4, 1931, a contract was made with Crowley and Downey for the construction of about 312 linear feet of concrete sea wall, with an opening for the passage of vehicles, at the Sand Hills near the wreck of the Pilot Boat "Columbia" at the following contract prices: for furnishing materials and constructing the concrete sea wall, including all incidental work, \$10.02 for each cubic yard of concrete measured in the completed work; for furnishing all equipment and labor, the removal of timber bulkheads, the wreck of the Pilot Boat "Columbia" and the disposal of the same and all incidental work, the lump sum of \$400; for furnishing 4-inch yellow pine plank, including the cost of materials, labor and all incidental work, the lump sum of \$50. This work was completed Oct. 1, 1931, at a contract cost of \$5,127.54.

A contract was made Oct. 6, 1931, with Crowley and Downey for the construction of a concrete sea wall and six concrete jetties at the northwesterly end of the Sand Hills, at the following contract prices: for furnishing material and constructing the concrete sea wall, including all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work; for furnishing materials and constructing six concrete jetties, including all incidental work, \$9.90 for each cubic yard of concrete measured in the completed jetties. This work was completed Nov. 10, 1931, at a contract cost of \$5,252.95.

A contract was made on Oct. 27, 1931, with Thomas Joseph McCue for placing a concrete top, face and footing on an existing concrete sea wall at the Sand Hills, and the construction of about 378 feet of wall along the shore of Scituate Harbor at Cedar Point and the repairing of about 120 feet of existing sea wall in the vicinity. The contract prices for this work were: for furnishing material and constructing the concrete top, face, footing and jetties, \$8.70 per cubic yard of concrete measured in the completed work; for furnishing $\frac{3}{4}$ " twisted steel reinforcing rods, four cents per pound; for furnishing material and constructing the new wall at Cedar Point and for repairing the existing wall, \$8.70 per cubic yard of concrete measured in the completed work.

This work was completed Dec. 19, 1931, at a contract cost of \$8,455.01.

Third Cliff

On Aug. 25, 1931, a contract was made with John P. Cavanagh for placing about 2,000 tons of heavy stone riprap to protect the face of a portion of the bluff at

Third Cliff. The contract price for furnishing and depositing the stone is \$2.24 per ton. This work is now in progress.

Amount expended for sea walls and other work of shore protection in Scituate during the year, \$59,978.02. Total expenditure to Dec. 1, 1931, \$384,296.47.

TAUNTON RIVER IMPROVEMENT

Chapter 405 of the Acts of 1930 provides:

"The department of public works may expend, from such appropriation as may hereafter be made, a sum not exceeding seventy thousand dollars, in addition to the sum of thirty thousand dollars hereinafter referred to, for the improvement for navigation of that part of the Taunton river extending from the city of Fall River to Weir village in the city of Taunton, and for payment for land purchased or taken, for land damages and other rights, and for the privilege of depositing material on land and flats of and adjoining said river; provided, that no part of said sums shall be available or expended until the congress of the United States shall approve a project, and make appropriation therefor, to improve that part of said river extending as aforesaid, by the construction therein of a continuous channel to a depth of at least twelve feet at mean low water; and provided, further, that no expense shall be incurred hereunder until said city of Taunton shall have contributed the sum of thirty thousand dollars toward the cost of the improvement herein authorized and shall have paid such sum into the state treasury, nor until said city of Taunton shall have agreed with said department to construct and/or maintain, as directed and approved by said department, a suitable wharf or terminal in connection with such improvement."

The project for the improvement of this river by the Federal Government was adopted by Act of Congress approved July 3, 1930, requiring that local interests shall provide, without expense to the United States, a suitable turning basin near the head of navigation and suitable bulkheaded areas for spoil disposal.

By order adopted by the Municipal Council of Taunton Feb. 10, 1931, approved by the Mayor Feb. 13, 1931, the sum of \$30,000 was appropriated by the city for its share of the cost of the improvement. On Feb. 17, 1931, the Municipal Council voted to provide any additional funds required for the turning basin and spoil areas. This vote was approved by the Mayor Feb. 18, 1931.

The Municipal Council of Taunton voted, also, on Feb. 24, 1931, to make such improvements in the existing municipal wharf as may be necessary to satisfy the requirements of the Department in accordance with the provisions of Chapter 405 of the Acts of 1930. This vote was approved by the Mayor on Feb. 25, 1931.

Chapter 245 of the Acts of 1931 made an appropriation of \$70,000 to carry into effect the provisions of Chapter 405, Acts of 1930.

Proposals for dredging in Taunton River to a depth of 12 feet at mean low water, a channel generally 100 feet wide from a point about 1,600 feet above the railroad bridge across the river at Somerset up to a point about 1,100 feet above Cobb's Wharf, Dighton, a total distance of about 17,100 feet, were received by the District Engineer, U. S. A., at Providence on June 15, 1931. The contract was awarded to the Atlantic Gulf & Pacific Company and this portion of the project has been completed. It is expected that work will be continued in 1932 and completed in 1933.

WAQUOIT BAY, FALMOUTH AND MASHPEE

Hearing was held Jan. 28, 1931, upon petitions of the Selectmen of Falmouth, and others, for rebuilding and raising the height of the breakwater and for dredging in Waquoit Bay.

A contract was made on June 9, 1931, with the Bay State Dredging and Contracting Company for dredging a channel from Nantucket Sound into Waquoit Bay, about 5,000 feet long, 60 feet wide on the bottom and 6 feet deep at mean low water, and for rebuilding the stone jetty at the entrance to the bay. For this work the contract prices were: for dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices, 25 cents per cubic yard measured in place; for removing and disposing of all boulders, \$20 per cubic yard; for riprap or stone chips furnished and placed in the completed work, \$6.70 per ton.

This work was completed Sept. 2, 1931, at a contract cost of \$33,820.67. Toward this cost a contribution of \$15,000 was made by the town of Falmouth and of \$500 by the town of Mashpee.

The dredging of the channel and the strengthening of the jetty has provided better facilities for navigation and increased normal range of tides about one foot. This increase materially improves the drainage of low areas around the bay, and creates better conditions for shellfish.

Amount expended during the year, \$35,889.90. Total expenditure to Dec. 1, 1931, \$93,314.40.

WEST HARWICH SHORE, HARWICH

An inspection made in April of the wire fence built last year showed considerable damage by storm. Under a letter contract of Apr. 30, 1931, with Louis A. Byrne, repairs were made to this fence for the lump sum of \$385.

Requests from the Selectmen and from owners of shore property were received during the summer for further protection along this shore. In the opinion of the Department the results desired can be attained by the building of from fifteen to twenty short jetties at intervals along the beach. This requires an expenditure estimated at \$25,000.

The town of Harwich is unable at present to make the necessary contribution of one-half the cost of the entire project, but has asked that a part of the work be done as soon as possible and has made a contribution of \$2,500 for the purpose. Specifications for the construction of four stone jetties are now being prepared.

Amount expended during the year, \$385. Total expenditure to Dec. 31, 1931, \$20,813.30.

WESTPORT HARBOR, WESTPORT

An inspection made in July of the breakwater built by the Commonwealth at the entrance to Westport Harbor showed that the greater part of the structure has settled two or three feet. A survey made in October revealed changes in the harbor depth indicating that the breakwater has resulted in the improvement of the harbor for purposes of navigation.

On Nov. 3, 1931, a contract was made with George W. Starbuck for furnishing and placing about 400 tons of stone riprap and chips in the stone jetty on the westerly side of Westport Harbor, at a contract price of \$5.40 for each ton of riprap or stone chips furnished and placed in the completed work. This work is now in progress.

Amount expended during the year, \$472.62. Total expenditure to Dec. 1, 1931, \$19,497.69.

WILD HARBOR, FALMOUTH

The work of dredging the entrance channel and anchorage basin in Wild Harbor, under contract of May 6, 1930, with the Trimount Dredging Company, was completed Dec. 15, 1930, at a contract cost of \$17,718.79.

This harbor has now an entrance channel 700 feet long, 60 feet wide on the bottom and 6 feet deep at mean low water, and an anchorage basin of the same depth with an area of 2.7 acres.

Amount expended during the year, \$4,777.30. Total expenditure to Dec. 1, 1931, \$55,128.66.

WITCHMERE HARBOR, HARWICH

The work of dredging the entrance channel to Witchmere Harbor, under contract of Nov. 5, 1930, with William E. Burke was completed Dec. 10, 1930, at a contract cost of \$5,241.60.

During the progress of the work requests were received for the dredging of the bar southerly of the entrance channel. Under a letter contract of Jan. 8, 1931, with William E. Burke this work was completed Jan. 27, 1931, at a contract cost of \$1,999.80. Toward this cost a contribution of \$500 was made by individuals interested in the improvement.

Amount expended during the year, \$7,620.41. Total expenditure to Dec. 1, 1931, \$63,415.54.

MISCELLANEOUS

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888.

This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Baddacook Pond, Grotton; Benson's Pond, Middleborough; Benton Pond, Otis; Big Sandy Pond, Plymouth; Cedar Pond, Carver; Cedar Pond, Lynn; Crystal Lake, Newton; Dunham Pond, Carver; Forge Pond, Granby; Great Herring Pond, Plymouth; Great Indian Pond, Plympton and Kingston; Lake Nipmuc, Mendon; Lake Nipinicket, Bridgewater; Lake Quannapowitt, Wakefield; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Little Sandy Pond, Plymouth; Maquan Pond, Hanson; Nine Mile Pond, Wilbraham; Oyster Pond, Edgartown; Santuit Pond, Mashpee; Sherman Lake, Brimfield; Silver Lake, Wilmington; Simon's Pond, Sandisfield; Sippowisset Pond, Falmouth; South Cotuit Pond, Barnstable; White Island Pond, Plymouth; Whites Pond, Plymouth.

During the year surveys of the following great ponds have been made:

Batemans Pond, Concord

Area at time of survey 19.64 acres

Area includes about 2 acres which has been excavated to enlarge pond.

Area of natural pond not determined. Maximum depth, 11.8 feet.

Laurel Lake, Lee-Lenox

Area at time of survey 151.32 acres

Area of natural pond 110.87 acres

Area of flowed pond 169.82 acres

The natural pond area is divided between the two towns as follows:—

92.95 acres in Lee

17.92 acres in Lenox

Maximum depth, 50.8 feet.

Benton or Parish Pond, Otis

Area of pond at time of survey 59.33 acres

Natural pond area 59.33 acres

Area of island in pond 0.15 acres

Maximum depth 28.0 feet

Clamshell Pond, Clinton

Area of pond at time of survey 26.46 acres

Natural pond area 26.46 acres

Maximum depth 27 feet

ACCESS TO GREAT PONDS

During the year two petitions relative to access to great ponds have been considered in accordance with the provisions of chapter 453 of the Acts of 1923.

Public Hearing before the joint board was held on December 17, 1930, upon a petition of ten citizens of the Commonwealth for the establishment of a right of way to Dunham Pond in the town of Carver. A special report to the legislature was made under date of January 9, 1931, stating:

"The Board is of the opinion that public necessity and convenience require the establishment of a right of way to Dunham Pond.

"The Board, therefore, recommends that the county commissioners of Plymouth County be authorized and directed to provide a right of way for public access to Dunham Pond."

Chapter 306 of the Acts of 1931 was passed in May, authorizing and directing the County Commissioners of Plymouth County to lay out a right of way in Carver from Tremont Street to Dunham Pond for public access, in accordance with plans approved by the Department of Public Works.

On May 20, 1931, the joint board gave a public hearing upon the petition of ten citizens of the Commonwealth for the establishment of a right of way for public access to Simon's Pond or Lake Marguerite in the town of Sandisfield. No further action has been taken.

BENSON'S POND, MIDDLEBOROUGH

Benson's Pond is a great pond belonging to the Commonwealth, with an area of about 32 acres, but it is very shallow and at times practically dry. During the year a request was made by one of the owners of property upon the shore to be allowed to buy the pond area and convert it into cranberry bogs. The work of draining the pond and constructing cranberry bogs within the reclaimed area was recommended by the State Reclamation Board as the drainage would create conditions in the pond area unfavorable to the breeding of mosquitoes.

In April, Chapter 243 of the Acts of 1931 was enacted, providing, "Subject to the written approval of the governor and council, and to such terms, conditions, restrictions and reservations as the department of Public Works may, with such approval, impose, the said department may convey, in the name and on behalf of the commonwealth, all the right, title and interest which the commonwealth has the power to convey in and to Benson's Pond, so called, including the waters and the land under the same, situated in the southerly part of the town of Middleborough and containing approximately twenty-five acres. Said conveyance shall be subject to any private rights in the property conveyed and shall be in a form approved by the attorney general."

After the passing of this Act a petition was filed by George A. Cowen, owner of property upon the shore of Benson's Pond, asking for conveyance to him of the title of the Commonwealth to this pond in order that he might drain the pond area and convert it to cranberry bogs. His petition was accompanied by a plan showing in detail the work proposed.

A public hearing, duly advertised, was held by the Department at the State House on Sept. 16, 1931. No evidence was received by the Board of any opposition to the project proposed by Mr. Cowen.

Under date of Oct. 13, 1931, under the provisions of Chapter 243 of the Acts of that year, a deed was signed conveying to George A. Cowen the right, title and interest of the Commonwealth in Benson's Pond. This conveyance was approved by the Governor and Council Oct. 21, 1931.

This instrument provides that the work shown upon the plan submitted shall be carried out within five years, and that unless the draining and developing of the entire pond area for cranberry culture is completed within that period, all right, title and interest in the property shall revert to the Commonwealth.

CAPE COD CANAL LANDING PLACE

Chapter 441 of the Acts of 1931 provides:

"Section 1. The department of Public works is hereby authorized and directed to request the war department of the United States to grant a permit and recommend a suitable location for the construction of a pier on the Cape Cod canal for the purpose of providing thereat adequate facilities and equipment for the handling of passengers and freight of ocean-going and other vessels, including in such permit authority to dredge a channel to said pier to accommodate such vessels. After the said department of public works has obtained the permit and recommendation as to location, said department may expend such sum, not exceeding in the aggregate two hundred and fifty thousand dollars, as may hereafter be provided.

"Section 2. To meet the expenditures necessary in carrying out the provisions of section one, the state treasurer shall upon request of the department issue and sell, at public or private sale, bonds of the commonwealth, registered or with interest coupons attached, as he may deem best, to an amount, to be specified from time to time by the department, but not in excess of two hundred and fifty thousand dollars in the aggregate. All such bonds shall be designated on their face, Cape Cod Canal Pier Loan, and shall be on the serial payment plan for a maximum term of ten years dating from the time when the permit and recommendation required in section one has been obtained. Said bonds shall bear interest, payable semi-annually, at such rate as the state treasurer, with the approval of the governor and council, shall fix.

"Section 3. Upon the completion of the work authorized in section one, said department shall have the supervision, control and maintenance of said pier, facilities and equipment, and shall make such rules and regulations and establish

such reasonable rates for the use of said pier, facilities and equipment as may be approved by the governor and council."

On June 26, 1931, at two o'clock in the afternoon the Department gave a public hearing, duly advertised, in the Town Hall at Bourne, to all persons interested in the provisions of the Act. One of the purposes of this hearing was to secure expressions of opinion as to the preferable location for the pier authorized by the statute. The greater number of those present at the hearing appeared to be strongly in favor of the building of the pier at the Buzzards Bay end of the canal.

The Department under the provisions of the Act has requested the War Department to grant a permit and recommend a suitable location for the construction of the pier. No further action can be taken by the Board until the necessary authorization is received from the War Department.

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand, the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Four acres of sand dunes have been covered with brush; 10,000 native pines on the sod have been transplanted and 350,000 seedlings of Scotch and Austrian pines planted. Bayberry has been planted along the new road for a distance of about one-half mile.

The work of building a sand marsh sod and timber dike about 3,200 feet long across Race Run under contract of July 15, 1930, with Frank H. Barry was completed Feb. 20, 1931, at a contract cost of \$18,950. The filling of areas back of the dike, the replacing of sod and the care of drains has been carried on by the force employed by the Superintendent upon these lands.

Under the provisions of Chapter 386 of the Acts of 1930, the Department on Dec. 17, 1930, conveyed to the United States a tract of land containing about 4.77 acres westerly of the northerly end of the State Highway at Sea View, for use as a site for a Coast Guard Station.

The sum of \$298.35 has been paid into the State Treasury during the year from licenses issued for cultivating and picking blackberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Amount expended during the year, \$11,457.87. Total expenditure to Dec. 1, 1931, \$157,235.79.

STATE BOUNDARY LINES

The work of resetting monuments found damaged during the perambulation of the State Line in 1930 was completed this year by the carrying out of the following work:

Massachusetts-Rhode Island Line,—Bounds numbered 5, 7, 25, 34, 35, 61, 62, 78, 83, 116, 117, 126 and two line stones on Newport Avenue, Attleborough and Pawtucket, reset.

Massachusetts-Connecticut Line,—Bound Dudley-Woodstock "C" moved and reset.

Massachusetts-New Hampshire Line,—Bound numbered 116 moved easterly about 75 feet and reset.

TOWN BOUNDARY LINES

During the year a survey was made of a portion of the boundary line between the towns of Newbury and Rowley crossing Plum Island River. Line stones were placed to mark this line as defined by Chap. 402, Acts of 1931.

The location of a bound stone was also determined on the Sharon-Walpole line and the bound at the three town corner of Lynn-Lynnfield-Peabody was relocated.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$5,000.

During the year two new gauging stations were established, one on the south branch of the Hoosac River in Adams and one on the north branch of the Hoosac River in North Adams.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation points were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 41 stations in Nantucket; 7 stations in Duxbury. Amount expended during the year, \$987.99.

LICENSES AND PERMITS

During the year 140 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 115 permits for miscellaneous purposes. The Department also approved 127 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1931, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1930</i>	<i>1931</i>	<i>Total</i>
Boston Harbor	\$1,417,933 18 ¹		
Dredging and filling		\$100,815 44	
Maintenance of property		84 00	
Special appropriation		66 85	
Contributions		—	\$1,518,899 47
Commonwealth Flats, East Boston	3,093,326 83 ²	—	3,093,326 83
Commonwealth Flats, South Boston	4,872,123 69		
Special appropriation		20,000 00	4,892,123 69
Castle Island	738,821 71		
Dredging and filling		1,407 00	
Maintenance of property		125 00	740,353 71
Commonwealth Pier No. 5, South Boston:			
Construction	4,014,790 45		
Maintenance	550,892 94	63,649 60	
Dredging	22,050 36		
Operation and supervision	1,414,159 94	122,088 65	6,187,631 94
Commonwealth Pier No. 1, East Boston:			
Construction	1,199,703 23		
Operation and supervision	103,458 40	8,967 49	
Maintenance	13,335 18	2,211 87	1,327,676 17

¹ Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921, \$4,000.00; by Bethlehem Ship Building Corporation in 1930, \$10,000.00.

² Appropriated by City of Boston in 1926, \$10,000.00.

<i>Payments</i>	<i>To Nov. 30, 1930</i>	<i>1931</i>	<i>Total</i>
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	
Maintenance	51,937 90	—	1,144,086 96
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,959 61 ⁴	—	
Dredging and filling		20 00	385,979 61
Mystic River	428,897 17 ⁵	—	428,897 17
Malden River	32,268 70 ⁶	—	32,268 70
Chelsea Creek	60,561 88	—	60,561 88
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property of Commonwealth (in addition to maintenance items listed above)	310,962 39	33,842 65	344,805 04
	<hr/>	<hr/>	<hr/>
	\$23,026,196 87	\$353,278 55	\$23,379,475 42

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1931, INCLUSIVE

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Cottage Park Channel, Winthrop, dredging	\$6,250 00	\$37,967 29
Dorchester, easterly shore, dredging and survey	1,000 00	210,742 60
Harbor View, dredging	—	146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Hough's Neck, Quincy, dredging	7,500 00	46,088 31
Island End River, Everett, survey	—	264 10
Jeffries Point Channel, dredging	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf), dredging	—	5,927 70
Neponset River, dredging	10,000 00	103,616 40
Old Harbor Cove, dredging	—	10,520 48
Orient Heights Channel, dredging	—	45,412 38
Pemberton Point, Hull, breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging	3,000 00	15,805 10
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, Winthrop, dredging	—	3,713 37
Quincy Bay, dredging	7,150 00	71,263 17
Shirley Gut, Boston and Winthrop, dredging	—	2,110 96
South Boston, southerly shore, dredging	—	129,542 08
Stony Beach, Hull, sea wall	—	12,326 09
Town River, Quincy, survey and dredging	16,050 00	57,473 27
Weir River, Hull, dredging	45,000 00	205,336 48
Wessagussett Channel, dredging	—	815 20
Weymouth Fore River, dredging	8,250 00	69,469 09
Winthrop Harbor Channels, dredging	17,192 00	72,769 80
	<hr/>	<hr/>
	\$237,892 00	\$1,313,116 95

³ Additional amount paid by State Treasurer from Development of the Port of Boston Loan sinking fund in settlement of claims, \$17,877.73.

⁴ Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation, \$38,600.00; paid by State Treasurer for land taking, \$3,725.27.

⁵ Contribution by Merrimac Chemical Company in 1920, \$15,000.00; in 1922, \$4,182.50; contribution by Beacon Oil Company in 1920, \$50,000.00.

⁶ Expended by United States Government, \$31,000.00; contribution by Standard Oil Company of New York, \$600.00.

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DECEMBER 1, 1930, TO NOVEMBER 30, 1931

<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Allen's Harbor, Harwich, timber fence, riprap and jetties	\$2,600 00	\$8,063 69
Barnstable Harbor, dredging	5,000 00	12,138 52
Bass River, Dennis and Yarmouth, dredging and jetties	—	5,887 39
Brant Rock, Marshfield, sea walls and riprap	104,947 06	103,997 79
Centerville River, Barnstable, dredging	4,000 00	35,810 93
Chatham, riprap	10,500 00	19,813 19
Cohasset Harbor, Cohasset, dredging and survey	9,000 00	16,371 33
Ellisville Harbor, Plymouth, excavation and dike repairs	—	513 75
Gloucester Fish Pier	—	396 91
Great Ponds, survey	—	1,687 55
Green Harbor, Marshfield, dredging	40,000 00	79,476 21
Gun Rock Point, Hull, sea wall repairs	—	319 80
Herring River, Harwich, dredging	4,000 00	45,383 82
Improvement of Rivers and Harbors, general expenses	—	3,417 79
Lagoon Pond, Tisbury and Oak Bluffs, survey	—	309 75
Lake Anthony, Oak Bluffs, jetties and dredging	10,000 00	21,880 27
Lewis Bay, Barnstable, survey and dredging	—	173 45
Little Harbor, Cohasset, survey	500 00	1,476 77
Long Beach Rockport, concrete sea wall	26,000 00	43,125 74
Manchester Harbor, Manchester, dredging	6,500 00	13,398 56
Menamsha Inlet, Chilmark and Gay Head, survey	—	105 05
New Bedford State Pier, operation and maintenance	—	4,090 56
New Bedford State Pier, construction and alterations	—	42,638 30
Plymouth Harbor, Plymouth, dredging	—	5,971 57
Plymouth Memorial Park, maintenance	—	4,713 89
Province Lands, Provincetown, reclamation	—	11,457 87
Rock Harbor, Orleans, removal of wreck	—	165 00
Rockport Harbor, Rockport	4,250 00	17,177 18
Salisbury Beach, survey	—	1,397 06
Scituate, shore protection:	37,500 00	
Cedar Point, Scituate, sea wall	—	3,853 38
First and Second Cliffs, Scituate, riprap	500 00	995 44
North Scituate, Surfside, sea wall and jetties	437 08	11,186 50
Sand Hills, Scituate, sea walls and jetties	—	16,043 74
Humarock Beach, Scituate, sea wall and jetties	—	22,493 66
Third Cliff, Scituate, riprap	—	5,022 06
General Surveys, Scituate	—	383 24
South River, Marshfield and Scituate, survey	—	724 85
Taunton River, survey	30,000 00	1,904 55
Waquoit Bay, Falmouth, dredging and jetty repairs	15,500 00	35,889 90
Water conservation	—	5,134 52
West Falmouth Harbor, removal of logs from channel	—	170 03
West Harwich, Harwich, jetty repairs and shore protection	2,500 00	385 00
Westport Harbor, Westport, survey and jetty repairs	—	472 62
Wild Harbor, Falmouth, dredging	—	4,777 30
Winthrop Shore, Winthrop, survey	—	10 00
Witchmere Harbor, Harwich	500 00	7,620 41
	\$314,234 14	\$618,426 89

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1931, INCLUSIVE, FOR RIVER
AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC
WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by		Total Expenditure
	Municipality or Others		
Acushnet River, inspection and dredging	—		\$119,792 10
Allen's Harbor, Harwich, shore protection, dredging, jetties and riprap	\$12,427 50		34,796 96
Allen's Pond, Dartmouth, survey	—		195 95
Angle Tree Monument, reservation	—		1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00		171,498 69
Apponagansett Harbor and River, Dartmouth, sur- vey, dredging and stone breakwater	—		55,786 05
Barnstable Harbor, Barnstable, dredging	6,500 00		30,693 16
Bass River, Beverly, dredging	55,535 75		81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey	22,595 00		182,413 47
Beach Street, Scituate — See Scituate.			
Beverly Harbor, Beverly, dredging	—		50,000 00 ¹
Brant Rock, Marshfield, sea walls	111,503 66		130,425 45
Brewster, Skaket Inlet, survey	—		617 19
Buck's Creek, Chatham, jetties, survey and dredging	2,500 00		39,719 69
Buzzard's Bay, Falmouth, survey	—		166 11
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00		42,557 04
Cataumet Harbor — See Megansett Harbor.			
Cedar Point, Scituate — See Scituate.			
Centerville River, Barnstable, dredging	19,711 50		44,093 52
Chatham, riprap	10,500 00		19,813 19
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88		113,435 77
Concord River, Billerica — removing boulders	150 00		1,664 59
Connecticut River, investigation of navigation and surveys	—		8,878 96
Connecticut River, Agawam, protective work	—		18,814 42
Connecticut River, Chicopee, survey wall and riprap	640 00		25,789 02
Connecticut River, Hadley, protective work, diver- sion wall and survey	5,000 00		118,740 95 ²
Connecticut River, Hatfield, dikes and riprap	1,000 00		51,238 61
Connecticut River, Holyoke, dredging and protective work	1,991 29		9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—		1,195 32
Connecticut River, Northampton, protective work	—		1,524 20
Connecticut River, Northfield, riprap	—		9,028 90
Connecticut River, South Hadley, wall	1,000 00		7,379 58
Connecticut River, Springfield and West Springfield, protective work	—		12,510 08 ³
Conservation of Waters — investigation	—		76,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38		83,243 85
Cuttyhunk Harbor, Gosnold, jetties and dredging	9,000 00		70,754 18
Deacon's Pond Harbor — See Falmouth Inner Har- bor.			
Duxbury Bay and Harbor, dredging	27,000 00		92,653 35
East Bay, Osterville, jetties, dredging and removing scows	10,000 00		70,924 23

¹ \$50,000 expended by United States Government.

² From 1888 inclusive.

³ From 1891 inclusive.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

Contributions by
Municipality
or Others Total
Expenditure

Locality and Character of Work

Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	20,174 18
Essex County beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71
Falmouth Inner Harbor, dredging, jetties, wall and riprap	31,500 00	150,396 26
First and Second Cliffs, Scituate — See Scituate.		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Glades, North Scituate — See Scituate.		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00	148,786 71
Great Head, Winthrop — See Winthrop Shore.		
Great Ponds, survey	—	18,340 55
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00	158,513 16
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	78,259 13
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and fence.	36,100 00	131,384 96
Herring River, Wellfleet, dikes and ditches	10,000 00	34,509 38
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	38,485 08
Humarock Beach, Scituate — See Scituate.		
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, general expenses	—	39,515 52
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	59,079 55
King's Beach, Swampscott, removal of obstruction.	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, survey	—	309 75
Lake Anthony, Oak Bluffs, jetties and dredging	15,000 00	97,411 51
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Tashmoo, Tisbury, survey	—	402 24
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,804 73
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, sea wall	26,000 00	43,125 74
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	163,431 53
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,694 04
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties,		

* \$5,000 expended by United States Government.

EXPENDITURES AND CONTRIBUTIONS, ETC., — *Continued*

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
dredging, sea wall and riprap	2,700 00	117,097 16
Merrimack River, investigation	—	1,208 50
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchell's River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey	—	82 15
Namequoit River and Pleasant Bay, dredging	5,500 00	28,529 62
Nantucket, survey of Sesachacha Pond	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 ^s	536,771 63
New Bedford State Pier, operation and maintenance	—	57,279 11
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap	1,950 00	41,385 22
North River, Marshfield, surveys and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate — See Scituate.		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	52,500 00	141,077 77
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,295 89
Orleans, survey	—	104 18
Palmer's Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ^e	324,526 92
Plymouth Memorial Park, maintenance	—	40,400 97
Point Shirley, Winthrop — See Winthrop Shore.		
Poponneset Bay, Barnstable and Mashpee, dredging	—	46,252 33
Powow River, Amesbury, dredging channel and rip- rapping wall	—	502 94
Province Lands, Provincetown	—	157,235 79
Provincetown Harbor, shore protection	75 00	28,730 81
Quamquisset Harbor, Falmouth, survey	—	710 31
Quansett Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93
Rock Harbor, Orleans, dredging	2,400 00	20,832 51
Rockport Harbor, Rockport, dredging and removing rocks	4,750 00	32,897 46
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	1,397 06
Salt Pond River, Eastham, survey	—	210 11
Salter's Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate — See Scituate.		
Sandwich Harbor, Sandwich, dredging channel, rip-		

^s Paid by surety company.^e \$57,000 expended under direction of United States Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by		Total
	Municipality	or Others	Expenditures
rap and jetties	—	—	80,579 84
Saugus River, Lynn and Saugus	2,000	00	20,845 17
Scituate, shore protection:	37,500	00	
Beach Street, Scituate, wall and breakwater	17,333	52	34,782 50
Cedar Point, Scituate, wall and breakwater	21,446	64	41,298 70
First and Second Cliffs, Scituate, wall and riprap	2,797	92	14,048 96
Glades, North Scituate, filling and riprap	13,250	78	30,737 96
Humarock Beach, Scituate, survey, wall and jetties	37,816	38	79,772 72
North Scituate, Surfside, spur jetties	2,194	68	28,229 19
Sand Hills, Scituate, wall and jetties	4,511	26	28,667 80
Third Cliff, Scituate, riprap and survey	75,193	10	126,375 40
General Surveys, Scituate	—	—	383 24
Scituate Harbor, dredging and surveys	53,300	00	205,865 94
Scorton Harbor, Sandwich, jetty and dredging	500	00	17,774 34
Seapuit River, Barnstable, dredging	13,000	00	25,088 55
Sesuit Harbor, Dennis, jetty	1,500	00	24,555 10
Shirley Gut, survey	—	—	97 05
Sippican Harbor, Marion, survey	—	—	615 66
Smith's Cove, Gloucester, survey and dredging	3,875	00	13,466 16
South River, Marshfield and Scituate, survey	—	—	724 85
South River, Salem, dredging	3,000	00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	—	203 42
Stage Harbor, Chatham, dikes and survey	—	—	10,803 01
Taunton-Brockton waterway, investigation	—	—	5,278 18
Taunton River, survey and dredging	42,500	00	30,601 73
Taunton River, Boston Harbor Canal, survey	—	—	9,932 75
Taunton River, Massachusetts Bay Canal, survey	—	—	11,786 71
Third Cliff, Scituate — See Scituate.			
Vineyard Haven Harbor, repairing sea wall	2,380	50	11,945 01
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000	00	45,518 25
Waquoit Bay, Falmouth, breakwater, wall, bulkheads and dredging	17,500	00	93,314 40
Wareham River, Wareham, survey and dredging	5,000	00	42,567 93
Warren's Cove, Plymouth, sea wall and survey	9,713	98	25,099 86
Watch Hill, Chatham, survey and riprap	—	—	14,968 75
Water Conservation — See Conservation of Waters.			
Wellfleet Harbor, Wellfleet, survey and dredging	1,500	00	17,600 29
West Bay, Barnstable and Osterville	16,128	07	114,517 57
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	11,473	75	63,520 95
West Harwich, shore protection	6,000	00	20,813 30
Westfield River, Westfield, survey and jetties	—	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	—	19,497 69
Wild Harbor, Falmouth, jetty and dredging	15,000	00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	40,500	00	97,557 52
Witchmere Harbor, Harwich, jetties and dredging	3,500	00	63,415 54
Woods Hole, Great Harbor, Falmouth, dredging	1,500	00	6,968 86
Wrecks, removal from tide water	—	—	20,283 69
Yarmouthport Harbor, survey	7,000	00	95,977 37

\$1,488,444 63 \$7,542,485 09

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1931, are shown in the following tables furnished by the Chief of Engineers, U. S. Army: —

TABLE NO. 1. — *Localities at Present under Improvement.*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1931.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$500,900 00	\$500,900 00
Gloucester Harbor	538,194 00	548,183 00
Beverly Harbor	246,690 41	246,690 41 ¹
Salem Harbor	107,956 57	107,956 57
Lynn Harbor	472,817 27	711,937 00
Mystic River	306,684 84	306,684 84
Boston Harbor	13,480,743 04	13,527,362 58
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00 ²
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Plymouth Harbor	421,184 80	421,184 80 ³
Cape Cod Canal	11,990,934 54	12,187,555 45
Operating and care, Cape Cod Canal	828,528 56	844,000 00
Provincetown Harbor	348,062 72	348,062 72
Pollock Rip Shoals	1,314,105 57	1,332,845 68
Cross Rip Shoals, Nantucket Sound	6 67	27,000 00
Harbor of Refuge at Nantucket	694,582 83	694,582 83
New Bedford and Fairhaven Harbor	1,073,339 11	1,217,852 58
Fall River Harbor	491,777 84	664,614 47
Taunton River	206,548 88	314,329 19
	<hr/>	<hr/>
	\$33,945,975 07	\$34,924,659 54

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00 ⁴
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzard's Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	39,000 00
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	7,500 00
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	24,300 00

¹ Exclusive of \$100,000 contributed funds.

² Exclusive of \$100,000 contributed funds.

³ Exclusive of \$108,400 contributed funds.

⁴ Exclusive of \$62,000 contributed funds.

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Marblehead Harbor	833 43	1,900 00
Martha's Vineyard Harbor	7,000 00	7,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,232 57
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	60,000 00
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Total	\$3,660,094 69	\$3,682,590 97

RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1	\$33,945,975 07	\$34,924,659 54
Total of Table No. 2	3,660,094 69	3,682,590 97
	\$37,606,069 76	\$38,607,250 51

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1931

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper ¹	\$13,480,743 04	\$13,527,362 58
Mystic River	306,684 84	306,684 84
	\$13,787,427 88	\$13,834,047 42

¹ Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
207	Wild Harbor, Falmouth, dredging .	Trimount Dredging Company .	May 6, 1930
237	Race Run Dike—Province Lands .	Frank H. Barry	July 15, 1930
238	Boston Harbor, dredging off India, Central and Long Wharves.	Bay State Dredging and Contracting Company.	July 15, 1930
239	Centerville River, Barnstable, dredging.	Trimount Dredging Company .	July 22, 1930
241	East Boston, dredging off Cunard Docks (Grand Junction Wharves) .	Bay State Dredging and Contracting Company.	July 15, 1930
243	Herring River, Harwich, dredging .	Trimount Dredging Company .	Aug. 26, 1930
244	East Boston, dredging adjacent to Simpson Works.	Bay State Dredging and Contracting Company.	Sept. 2, 1930
245	Commonwealth Pier 5, additions to engineering offices.	Carl S. Helrich.	Aug. 26, 1930
248	Green Harbor, Marshfield, timber fence.	Owen W. Duffy Co.	Oct. 14, 1930
249	South Boston, painting exterior of building on Grasselli Wharf and of garage under viaduct.	Maurice M. Devine	Oct. 28, 1930
250	Allens Harbor, Harwich, timber fence and riprap.	Joseph W. Nickerson	Nov. 12, 1930
251	Neponset River, dredging . . .	Bay State Dredging and Contracting Company.	Nov. 5, 1930
252	Witchmere Harbor, Harwich, dredging.	William E. Burke	Nov. 5, 1930
253	Northern Avenue, sea wall . . .	William R. Farrell	Nov. 18, 1930
254	Hough's Neck, Quincy, dredging .	Bay State Dredging and Contracting Company.	Nov. 25, 1930
255	Coulter's Beach, Savin Hill Bay, placing sand or gravel.	Henry N. Worthington . . .	Nov. 25, 1930
256	Pilgrim Memorial Park, Plymouth, concrete walks, etc.	Domenik Romano.	Nov. 25, 1930

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Dec. 15, 1930	For dredging and disposing of dredged material on shore, 57 cents per cubic yard measured in situ. For removing and disposing of boulders, \$20 per cubic yard. Lump sum of \$18,950.	\$4,684 29	\$17,718 79	\$19,500 00
Completed Feb. 20, 1931 Completed Dec. 23, 1930	For dredging and disposing of dredged material, 36 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	6,064 00	18,950 00	18,950 00
Completed Sept. 1, 1931	For dredging and disposing of dredged material on marsh, upland and beach, 35 cents per cubic yard, measured in place. For removing and disposing of boulders, \$10 per cubic yard.	3,014 55	20,097 00	20,097 00
Completed Mar. 21, 1931	For dredging and disposing of dredged material, 44.5 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	23,746 00	23,746 00	25,000 00
Completed Jan. 10, 1931	For dredging channel and disposing of dredged material upon adjacent flats, 58 cents per cubic yard; including building dikes and removing section of lower County Bridge. For removing and disposing of boulders, \$20 per cubic yard.	6,893 12	31,979 04	31,979 04
Completed Mar. 26, 1931	For dredging and disposing of dredged material, 55 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	27,265 31	52,852 50	51,640 00
Completed Dec. 19, 1930	For furnishing labor and materials and building addition to engineering offices, \$17,890. For removing broken glass and furnishing and setting new wire glass, \$1.25 for each light of glass placed. For reputting Fenestra sash, 35 cents for each light of glass puttied.	16,389 34	42,752 60	42,752 60
Completed Jan. 3, 1931	For each linear foot of fence measured in place, including furnishing of all labor and materials and performing of all excavations, backfilling and incidental work, \$5.50.	3,681 29	18,377 96	18,377 96
Completed Dec. 11, 1930	For furnishing labor and equipment for painting by spraying under compressed air the exterior of two buildings, the lump sum of \$595.	1,966 00	4,069 75	4,069 75
Completed Dec. 29, 1930	For each linear foot of fence, measured in place, including furnishing of labor and materials, \$6. For each ton of riprap furnished and placed, including all grading and incidental work, \$4.65.	413 48	716 93	716 93
Completed Dec. 16, 1930	For dredging and disposing of dredged material, 74 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	2,783 92	2,783 92	2,785 50
Completed Dec. 10, 1930	For dredging and disposing of dredged material, 60 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	1,186 22	1,186 22	1,352 00
Completed Dec. 4, 1930	For furnishing and placing riprap along toe of sea wall, including all incidental work, \$4.73 per ton of riprap in place.	5,241 60	5,241 60	4,940 00
Completed Jan. 23, 1931	For dredging and disposing of dredged material, 49 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	2,920 30	2,920 30	2,838 00
Completed Dec. 15, 1930	For furnishing and placing sand or sand and gravel, including all incidental work, \$1.20 per cubic yard of material placed in the work.	14,987 14	14,987 14	14,720 00
Completed Dec. 15, 1930	For straight granite curbing set in place, \$2.05 per linear foot. For curved granite curbing set in place, \$2.25 per linear foot. For concrete walk in place, \$2.25 per square yard. For gravel walk in place, \$1.25 per square yard.	4,106 52	4,106 52	4,106 52
		1,158 79	1,158 79	1,158 75

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CONTRACT No.	Work	Contractor	Date
257	Brant Rock, Marshfield, riprap . . .	Philip B. Oakman	Nov. 25, 1930
258	Staples Wharf, South Boston, repairs.	Maurice M. Devine	Dec. 2, 1930
259	Herring River, Harwich, dredging . .	Trimount Dredging Company . .	Nov. 25, 1930
260	Commonwealth Pier 5, South Boston, installation of wall outlets for electric service.	Mass. Electric Construction Company.	Feb. 10, 1931
261	Herring River, Harwich, dredging entrance channel.	Trimount Dredging Company . .	Feb. 17, 1931
262	Allen's Harbor, Harwich, dredging . .	Trimount Dredging Company . .	Mar. 17, 1931
263	Green Harbor, Marshfield, dredging . .	Trimount Dredging Company . .	Apr. 28, 1931
264	Manchester Harbor, dredging	Bay State Dredging and Contracting Company.	Apr. 28, 1931
265	Lake Anthony, dredging	Bay State Dredging and Contracting Company.	Apr. 28, 1931
266	Maraspin Creek, Barnstable, dredging.	Bay State Dredging and Contracting Company.	May 5, 1931
267	Green Harbor, Marshfield, rebuilding stone jetties.	Thomas Whalen & Sons, Inc. . .	Apr. 28, 1931
268	Commonwealth Pier 5, repairing fenders and platform.	Bay State Dredging and Contracting Company.	May 5, 1931
270	Rockport Harbor, dredging	Bay State Dredging and Contracting Company.	May 19, 1931
271	Winthrop Harbor, dredging near Winthrop Yacht Club.	Saybrook Dredging Company . .	May 19, 1931
272	Cottage Park, Winthrop, dredging . .	North Atlantic Dredging Company.	May 19, 1931
273	East Bay, Barnstable, dredging . . .	Trimount Dredging Company . .	May 26, 1931

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Dec. 10, 1930	For placing riprap and chips, \$3.85 per ton.	\$863 75	\$2,500 00	\$2,500 00
Completed Feb. 17, 1931	Unit prices	3,491 00	3,491 00	3,630 00
Completed Jan. 7, 1931	For dredging and disposing of dredged material on marsh and flats, 40 cents per cubic yard.	8,000 00	8,000 00	8,000 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Mar. 13, 1931	For furnishing and installing 65 wall outlets for electric service, \$1,130.	1,469 66	1,469 66	1,469 66
Completed Mar. 2, 1931	For dredging channel and disposing of dredged material on marsh and flats adjacent to work, including construction of necessary dikes, 30 cents per cubic yard.	7,583 40	7,583 40	7,500 00
Completed Apr. 15, 1931	For dredging channel through sand bars southerly of end of west jetty and disposing of excavated material on marsh and flats, \$1.00 per cubic yard.	4,000 00	4,000 00	4,000 00
	For dredging channel between jetties and disposing of excavated material on marsh and flats, 40 cents per cubic yard.			
Completed Oct. 5, 1931	For dredging and disposing of excavated material on land and marsh, including construction of necessary dikes, 41.4 cents per cubic yard.	34,500 28	34,500 28	31,898 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Aug. 25, 1931	For dredging and disposing of dredged material, 56 cents per cubic yard, scow measurement.	12,495 84	12,495 84	12,495 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed June 24, 1931	For dredging and disposing of dredged material, 42 cents per cubic yard, scow measurement.	19,012 14	19,012 14	18,920 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed July 3, 1931	For dredging and disposing of excavated material on marsh and flats, including the construction of necessary dikes and sluices, 40 cents per cubic yard, measured in place.	11,574 00	11,574 00	12,000 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed July 23, 1931	For each ton of riprap or stone chips furnished and placed in completed work, \$3.20.	23,406 18	23,406 18	23,720 00
	For each linear foot of timber fence measured in place, including furnishing of all labor and materials, and performing of all excavation, backfilling and incidental work, \$6.00.			
	For each cubic yard of concrete measured in place in the completed work, including all forms, excavation and incidental work, \$14.			
Completed July 28, 1931	Unit prices	1,347 87	1,347 87	1,347 87
Completed Aug. 4, 1931	For dredging and disposing of dredged material, 50 cents per cubic yard, scow measurement.	16,088 50	16,088 50	16,088 50
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Sept. 29, 1931	For dredging and disposing of dredged material in disposal area specified, 55 cents per cubic yard measured in situ.	31,851 05	31,851 05	31,915 00
	For removing and disposing of boulders, \$15 per cubic yard.			
Completed July 12, 1931	For dredging and disposing of dredged material on the shore, 50 cents per cubic yard, measured in situ.	15,585 00	15,585 00	15,585 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Aug. 27, 1931	For dredging and disposing of excavated material on marsh and flats by hydraulic process, including construction of necessary dikes and sluices, 35 cents per cubic yard measured in place.	7,094 15	7,094 15	7,360 00
	For removing and disposing of boulders, \$10 per cubic yard.			

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON- TRACT No.	Work	Contractor	Date
274	Waquoit Bay, Falmouth and Mashpee, dredging and repairs to jetty.	Bay State Dredging and Contracting Company.	June 9, 1931
275	East Boston, Jeffries Point, dredging .	Trimount Dredging Company .	June 9, 1931
276	Chatham Shore Protection . .	Joseph W. Nickerson . . .	June 23, 1931
277	Commonwealth Pier 5, reconstruction of concrete beams and slabs.	Gunite Construction Company .	July 7, 1931
278	Boston Inner Harbor, dredging . .	Bay State Dredging and Contracting Company.	July 7, 1931
279	New Bedford State Pier, timber platform.	Frank C. Taylor	July 14, 1931
280	New Bedford State Pier, alterations to immigration shed and concrete pavement.	P. J. McNally & Sons	July 14, 1931
281	E Street Store, timber platform . .	Klayman Construction Company .	July 15, 1931
282	Long Beach, Rockport, concrete sea wall.	George W. Nicoll Company, Inc. .	Aug. 18, 1931
283	Scituate, Sand Hills, sea wall near wreck of Pilot Boat "Columbia" .	Crowley & Downey	Aug. 4, 1931
284	Scituate, Sand Hills, sea wall and jetties at northwesterly end.	Crowley and Downey. . . .	Oct. 6, 1931
285	Cedar Point, Scituate, concrete sea wall.	Crowley and Downey	Aug. 11, 1931
286	Humarock Beach, Scituate, concrete sea wall and jetties.	Atwood-Thomas Construction Company.	Aug. 11, 1931
287	North Scituate sea walls and jetties .	Thomas Joseph McCue . . .	Aug. 18, 1931
288	Third Cliff, Scituate, riprap . .	John P. Cavanagh	Aug. 25, 1931

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Sept. 2, 1931	For dredging and disposing of excavated material on marsh and flats, including the construction of necessary dikes and sluices, 25 cents per cubic yard, measured in place. For removing and disposing of boulders, \$20 per cubic yard. For each ton of riprap or stone chips furnished and placed in the completed work, \$6.70.	\$33,820 67	\$33,820 67	\$33,820 67
Completed July 1, 1931	For dredging and disposing of dredged material, 69 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	1,395 87	1,395 87	1,607 00
Completed Aug. 28, 1931	For furnishing and placing heavy stone riprap and granite chips, \$3.79 per tone of 2,000 pounds, in place.	18,757 01	18,757 01	18,950 00
Completed Nov. 18, 1931	Unit prices	10,095 36	10,095 36	12,788 00
Completed Sept. 22, 1931	For dredging and disposing of dredged material, 38.5 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	70,093 49	70,093 49	70,093 49
Completed Nov. 23, 1931	Unit prices	41,716 33	41,716 33	48,252 50
Completed Sept. 1, 1931	For furnishing labor, materials and equipment for alterations to immigration shed, \$839. For each square yard of concrete pavement laid in driveway and approach, \$2.26 per square yard, measured in place in completed work.	2,062 79	2,062 79	2,062 79
Completed Sept. 26, 1931	Unit prices	4,287 36	4,287 36	5,343 95
Completed Nov. 15, 1931	For each cubic yard furnished and placed in the construction of the concrete sea wall, \$11.20 measured in place in the completed work	41,116 40	41,116 40	44,240 00
Completed Oct. 1, 1931	For furnishing materials and constructing sea wall, \$10.02 per cubic yard of concrete measured in the completed work. For furnishing equipment and labor, for removing timber bulkheads and the wreck of the Pilot Boat "Columbia" and the disposal of the same, the lump sum of \$400.	5,127 54	5,127 54	6,311 70
Completed Nov. 10, 1931	For furnishing 4-inch yellow pine plank, \$50. For furnishing material and constructing concrete sea wall, including all incidental work, \$9.90 for each cubic yard of concrete measured in completed work.	4,465 01	4,465 01	5,252 95
Completed Oct. 7, 1931	For furnishing materials and constructing six concrete jetties, including all incidental work, \$9.90 for each cubic yard of concrete measured in completed jetties.	3,406 89	3,406 89	3,415 50
Completed Nov. 10, 1931	For furnishing materials and constructing concrete sea wall, including all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work. For furnishing materials and constructing concrete sea wall and jetties, including all incidental work, \$9.20 for each cubic yard of concrete measured in completed work.	21,347 04	21,347 04	25,114 16
Completed Nov. 28, 1931	For furnishing and placing 4-inch yellow pine plank for openings in concrete wall, including cost of materials, labor, and all incidental work, 10 cents for each board foot of lumber in place in the completed work.	9,060 26	9,060 26	10,659 13
Completed Nov. 28, 1931	For furnishing material and constructing concrete sea walls and jetties, \$10 per cubic yard of concrete measured in place of completed work. For furnishing and placing lumber in opening in concrete wall, 5 cents for each foot board measure of lumber in place in the completed work.			
In progress	For furnishing each ton of stone riprap and depositing it in place, including all cleaning up and incidental work, \$2.24.	3,844 08	3,844 08	4,480 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
289	Oak Bluffs, sea wall near entrance to Lake Anthony.	Joseph W. Nickerson	Sept. 1, 1931
290	Marshfield, sea wall at Fieldston . .	Louis B. Cadario and Sons . . .	Sept. 15, 1931
291	Brant Rock, Marshfield, riprap . . .	Raymond A. Bergesson	Sept. 15, 1931
292	Cohasset Harbor, dredging	Bay State Dredging and Contracting Company.	Sept. 8, 1931
293	Green Harbor, Marshfield, dredging .	Trimount Dredging Company . .	Oct. 6, 1931
294	Pleasant Park Yacht Club, Winthrop, dredging.	Bay State Dredging and Contracting Company.	Oct. 20, 1931
295	Commonwealth Pier 1, East Boston .	Michael Solimando	Oct. 27, 1931
296	Westport Harbor, repairs to stone jetty.	George W. Starbuck	Nov. 3, 1931
297	Scituate Sea Walls, Sand Hills and Scituate Harbor.	Thomas Joseph McCue	Oct. 27, 1931
298	Menamsha Inlet, Chilmark and Gay Head, protective work.	Merritt-Chapman & Scott Corporation.	Nov. 3, 1931
299	Hull, sea walls at Stony Beach and Pemberton, repairs and rebuilding.	Bradford Weston	Nov. 10, 1931
300	Winthrop Harbor, removal of boulders from basin of Winthrop Yacht Club.	Trimount Dredging Company . .	Nov. 10, 1931
301	Allens Harbor, Harwich, timber fence and riprap.	George W. Starbuck	Nov. 24, 1931

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Oct. 3, 1931	For furnishing labor and equipment and straightening existing concrete sea wall, the lump sum of \$200.	\$1,288 91	\$1,288 91	\$1,288 91
In progress	For furnishing each bag of Portland cement used in concrete, including all form work, sand, gravel, excavation and backfilling, and all incidental work in connection with placing concrete footings and cap on the wall, \$3.33.	61,441 96	61,441 96	83,706 24
In progress	For furnishing materials and constructing concrete sea wall and jetties, \$7.48 per cubic yard of concrete measured in completed work. For furnishing materials and constructing concrete apron and wing walls, the lump sum of \$1,250 for completed work. For furnishing and placing heavy stone riprap, \$3 per ton of 2,000 pounds in place in completed work.	11,101 00	11,101 00	29,096 75
Completed Oct. 19, 1931	For each ton of riprap and chips furnished and placed in completed work, including removal of remains of old timber bulkheads, storing of material and other incidental work, \$2.00.	15,618 24	15,618 24	18,374 40
Completed Nov. 14, 1931	For dredging and disposing of excavated material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 48 cents per cubic yard measured in place. For removing and disposing of all boulders, \$20 per cubic yard.	16,796 00	16,796 00	19,000 00
Completed Oct. 23, 1931	For dredging channel and disposing of dredged material on upland and marsh out of tide water, 38 cents per cubic yard measured in place. For removing and disposing of boulders, \$20 per cubic yard.	1,274 18	1,274 18	1,748 00
In progress	For dredging basin and disposing of the dredged material, \$1.08 per cubic yard, scow measurement.	-	-	2,705 40
In progress	For removing and disposing of boulders, \$20 per cubic yard. Unit prices For each ton of riprap or stone chips furnished and placed in completed work, \$5.40.	-	-	2,160 00
In progress	For furnishing material and constructing concrete top, face, footing and jetties, \$8.70 for each cubic yard of concrete measured in completed work. For furnishing $\frac{3}{4}$ " twisted steel reinforcing rods, 4 cents per pound. For furnishing material and constructing and repairing light wall, \$8.70 for each cubic yard of concrete measured in completed work.	5,401 72	5,401 72	8,050 00
In progress	For each ton of riprap or stone chips furnished and placed in the completed work, \$4.19. For furnishing and placing 340 cubic yards of filling, the lump sum of \$300.	-	-	12,777 82
In progress	For furnishing all labor and materials and constructing new concrete sea wall, \$10 for each cubic yard of concrete measured in completed work. For furnishing labor and materials and constructing concrete footings under and in front of existing walls, \$12 for each cubic yard of concrete measured in the completed work.	-	-	2,929 94
In progress	For towing equipment and crew to site of work and returning after completion of work, the lump sum of \$95. For rental of floating plant and all necessary equipment, including crew and all incidental expenses, \$89 for each day of eight hours the equipment is used on the work. For each hour worked by diver and tender, including equipment, \$5 for each hour employed on the work.	-	-	1,200 00
In progress	For each linear foot of fence measured in place, including the furnishing of labor and materials and the performance of all excavation, backfilling and incidental work, the sum of \$7.75. For each ton of riprap furnished and placed, including all grading and incidental work, \$4.00.	-	-	1,281 25

INDEX

General

	PAGE
Appropriations	4
Bond issue, State highway and building construction	2
Financial Statements	12
Expenditures	13
Summary of Income	12
General Activities of Department	1
Office Building for Department	2, 13
Organization, under chapter 16, General Laws, as amended	1
Personnel	3
Recommendations for Legislation	4
Special Reports by Department of Public Works	3
<i>Relating to Highways</i>	
Advertising Signs and Devices within the Public View	65
Bridges, in general	45
Fall River-Somerset, — over Taunton River	51
Newburyport-Salisbury, — over Merrimack River	51
New Bedford-Fairhaven, — over Acushnet River	51
Common Carriers, Permits to use Highways	65
Contract Prices, Dec. 1, 1930 to Nov. 30, 1931	68
Contracts signed during the year	18
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns and Counties	16
Expenditures, Summary for the Year	16
Federal Aid in Constructing Highways	40
Allotments to Massachusetts	40
Emergency Advance Funds	40
Mileage	41
Statement of Road Projects	41
Gas Tax, distribution, under provisions of Chapter 122, Acts of 1931	64
General Statement as to Surveys, Plans, Estimates and other Work during the Year	16
Highway Fund	12
Highway Improvements authorized by Special Acts	63
Petitions, Meetings and Hearings	17
Public Ways, exclusive of State Highways, in certain Towns	58
Allotments or Contributions by the State and Towns	58
Expenditures in Various Counties and Towns	62
Towns where Work has been contracted for	58
State Highways	18
Construction and Reconstruction	23
Contracts entered into for Work in Various Municipalities	23
Expenditures in various Counties and Municipalities	33
Expenditures under provisions of Chapter 122, Acts of 1931	34
Contracts for Reconstruction in anticipation of an appropriation	63
Maintenance and Repair	34
Expenditures in Various Counties and Municipalities	34
Permits issued for Opening or Occupying State Highways	17
Petitions received during the year	18
Regulation of Traffic during Winter 1930-1931	40
Removal of Snow and Ice	36
Resurfacing and Widening	16
Roadside Maintenance and Development	38

Removal of Brush	38
Sidewalk construction on State highways	39
Signs, Direction, Route, Warning, etc.	37
State Highway Lighting	39
Traffic Accident Studies	38
Traffic Control Signals and Regulations	37
Traffic Count	38
Uniform Traffic Signs, Lights, Markings, etc.	37
Tercentenary Signs	39
Town and County Ways	51
Allotments or Contributions by the State, Towns and Counties	51
Expenditures in Various Counties and Towns	57
Towns where Work has been contracted for	51
Type of Road and Length contracted for	51

Relating to Registry of Motor Vehicles

Accident Prevention	74
Accident Report Letters	79
Aircraft	76
Analysis of Court Abstracts received	81
Branch Offices	75
Comparative Statement showing Ratio of Yearly Registrations to Deaths and Injuries; and Suspensions, etc.	79
Conference of Motor Vehicle Administrators	82
Examinations for Licenses	74
Expenditures, Analysis of, for 1931	83
Headlighting	78
Insurance, Motor Vehicle Liability	76
Investigations and Prosecutions by Inspectors	79
Motor Vehicle Deaths, Injuries, Collisions	78
Number of Children killed and injured	78
Number of Collisions	79
Number of Persons killed and injured	78
Motor Vehicle Equipment, Inspection of	77
Brakes and Lights	78
Rear Lamps	78
Registrations, Licenses, Fees	74
Cost of Running the Registry of Motor Vehicles	83
Court Fines received by the Treasurer and Receiver General	83
Motor Vehicle Fees Rebated	83
Passenger Cars, Commercial Vehicles and Motor Cycles	74
Receipts, Analysis of	82
Total Receipts credited Highway Fund, 1931	83
Revocations and Suspensions	80
Safety Work	84
Used-car Section	81
Motor Vehicle Identification	81
Engine Numbers assigned	82
Motor Vehicles stolen	82
Reports	82

Relating to Waterways and Public Lands

Allen's Harbor, Harwich	90
Benson's Pond, Middleborough	102
Boston Harbor	85
Atlantic Avenue Waterfront Dredging	87
Commonwealth Flats at East Boston	86
Aircraft Landing Field—Boston Airport	86
Commonwealth Pier No. 1	86

	PAGE
Reclamation of Flats	86
Commonwealth Flats at South Boston	85
Commonwealth Pier No. 5	85
Development of Land South of Summer Street	85
Grasselli Wharf	85
Northern Avenue Sea Wall	85
Staples Wharf	85
Dredging Opposite U. S. Immigration Station	87
East Boston,—Abandoned Hulks	87
Expenditures for Development and Improvement in Boston Harbor 1859-1931, inclusive	104
Expenditures and Contributions for Improvement of Small Harbors and Channels within Boston Harbor, 1893-1931, inclusive	105
Grand Junction Wharves	87
Hayward's Creek	89
Hough's Neck, Quincy, Dredging	88
Hough's Neck, Quincy, Sea Wall	88
Hull Sea Walls	88
India, Central and Long Wharves, Dredging	87
Jeffries Point Dredging	86
Neponset River, Boston	87
Repairs to sea walls, Hull and Quincy	88
Savin Hill Bay and Dorchester Bay Dredging	
Coulter's Beach	87
Winthrop Dredging	88
Cottage Park Channel and Basin	88
Pleasant Park Basin	89
Winthrop Harbor	88
Cape Cod Canal Landing Place	102
Centerville River, Barnstable	90
Chatham Shore Protection	91
Cohasset Harbor, Cohasset	91
Conserving and Equalizing the Flow of Water in Rivers and streams	104
Contracts made and in force during year ending Nov. 30, 1931	114
East Bay, Barnstable	91
Expenditures and Contributions for River and Harbor Work from 1893 to Nov. 30, 1931, excepting Boston Harbor	107
Expenditures and Contributions for River and Harbor Work from Dec. 1, 1930 to Nov. 30, 1931	106
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to June 30, 1931	111
Great Ponds	100
Access to	101
Dunham Pond, Carver	101
Simon's Pond or Lake Marguerite, Sandisfield	101
Surveys	101
Green Harbor, Marshfield	91
Gun Rock to Green Hill Sea Wall, Hull	92
Herring River, Harwich	92
Income, Statement of	12
Lake Anthony, Oak Bluffs	93
Licenses and Permits	104
Long Beach, Rockport	93
Manchester Harbor, Manchester	93
Maraspin or Mill Creek, Barnstable	94
Marshfield Sea Walls	94
Menamsha Inlet, Chilmark and Gay Head	95
New Bedford State Pier	95

Oak Bluffs Sea Wall	96
Plymouth, Commonwealth Property	96
Port of Boston Fund	12
Province Lands	103
Provincetown Tercentenary Commission	97
Rivers, Harbors, Tide Waters and Foreshores outside of Boston Harbor	89
Rockport Harbor, Rockport	97
Scituate Sea Walls	97
Cedar Point	97
First Cliff	97
Humarock Beach	98
North Scituate	97, 98
Sand Hills	98
Third Cliff	97, 98
State Boundary Lines	103
Taunton River Improvement by Federal Government	99
Town Boundaries	103
Triangulation Stations, Re-establishment of Certain	104
Waquoit Bay, Falmouth and Mashpee	99
West Harwich Shore, Harwich	100
Westport Harbor, Westport	100
Wild Harbor, Falmouth	100
Witchmere Harbor, Harwich	100